LELAND STANFORD JUNIOR UNIVERSITY
SECOND SERIES BULLETIN NUMBER 50

REGISTER FOR 1909-10

MAY, 1910

STANFORD UNIVERSITY, CALIFORNIA
PUBLISHED BY THE UNIVERSITY

SPECIAL NOTICE CONCERNING FEES

April 29, 1910, the following changes in the matter of fees were made by the Board of Trustees:

Beginning with the academic year 1910-11 an Incidental Fee of $15 per semester will be charged to all registered students, except (1) those registered in the professional courses of Law or Medicine, (2) graduate students accepted as candidates for an advanced degree.

The present Registration Fee is discontinued, but the usual department, guild, and other fees will be charged as at present.

A tuition fee of $4 per unit of credit, in all courses included in the required curriculum of the Department of Medicine, will be charged to students taking such courses, who are not registered as students in Medicine or as candidates for advanced degrees. This regulation shall not apply to such courses in the medical curriculum as were given in the University prior to the establishment of the Department of Medicine.

LELAND STANFORD JUNIOR UNIVERSITY

NINETEENTH

ANNUAL REGISTER

1909-10

"The beneficence of the Creator towards man on earth, and the possibilities of humanity, are one and the same."—LELAND STANFORD.

"A generous education is the birthright of every man and woman in America."

STANFORD UNIVERSITY, CALIFORNIA
PUBLISHED BY THE UNIVERSITY
MAY, 1910

Printed by
THE HICKS-JUDD COMPANY
San Francisco

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OFFICE DIRECTORY

The office of the President is room 112.
The office of the Registrar is room 116.
The office of the Dean of Women is room 203.
The office of the Student Adviser is room 45.
The office of the Academic Secretary is room 113.
The office of the Treasurer is room 250.
The office of the Committee on Public Health is room 95.

The various Departmental offices are given in the Schedule and in the Directory of Officers and Students.

The University Post and Telephone Office is *Stanford University, California.*

The University Railway Station and Telegraph and Express Office is *Palo Alto, California.*

Requests for *Registers,* blanks, and other printed matter, and inquiries regarding terms of admission, advanced standing, etc., should be addressed to The Registrar, *Stanford University, California.*

[The rooms in the Inner Quadrangle are numbered consecutively, beginning at the left of the main entrance, ten numbers being alloted to each building. In the Outer Quadrangle forty numbers are allotted to each of the large buildings and ten numbers to each one-story building, beginning with the Assembly Hall and number 120. The engineering buildings south of the Quadrangles begin with number 500. The Chemistry building is on the west avenue between the Quadrangles and the Museum.]

UNIVERSITY CALENDAR

1909

Aug. 26 Thursday..... Entrance Examinations begin.
Dec. 11-17 Saturday-Friday.....End-Semester Examinations.

1910

Jan. 11 Tuesday.....Registration for Second Semester.
Jan. 12 Wednesday.....Instruction begins.
Jan. 14 Friday..... Mid-Year Conferring of Degrees.
March 9 Wednesday.....Founders' Day.
March 26 Saturday..... } Mid-Semester Recess.
April 3 Sunday..... }
May 12-18 Thursday-Wednesday..End-Semester Examinations.
May 14 Saturday.....Birthday of Leland Stanford, Jr.
May 23 Monday.....Commencement.

Aug. 25 Thursday..... Birthday of Jane Lathrop Stanford.
Aug. 25 Thursday..... Entrance Examinations begin.
Aug. 29 Monday.....Registration of Graduate Students.
Aug. 30 Tuesday..... Registration of Matriculated Students.
Aug. 31 Wednesday..... Registration of New Students.
Sept. 1 Thursday..... Instruction begins.
Sept. 9 Friday.....Conferring of Degrees.
Nov. 24 Thursday..... } Thanksgiving Recess.
Nov. 27 Sunday..... }
Dec. 15-21 Thursday-Wednesday..End-Semester Examinations.

1911

Jan. 10 Tuesday..... Registration for Second Semester.
Jan. 11 Wednesday.....Instruction begins.
Jan. 13 Friday..... Mid-Year Conferring of Degrees.
Feb. 22 Wednesday.....Washington's Birthday.
March 9 Thursday..... Founders' Day.
March 25 Saturday..... } Mid-Semester Recess.
April 2 Sunday..... }
May 14 Sunday..... Birthday of Leland Stanford, Jr.
May 11-17 Thursday-Wednesday..End-Semester Examinations.
May 21 Sunday..... Baccalaureate Sunday.
May 22 Monday.....Commencement.

BOARD OF TRUSTEES

LIFE TRUSTEES	DATE OF APPOINTMENT
HORACE DAVIS	1885
TIMOTHY HOPKINS	1885
GEORGE EDWARD GRAY	1885
JOSEPH DONOHOE GRANT	1891
SAMUEL FRANKLIN LEIB	1891
LEON SLOSS	1891
THOMAS WELTON STANFORD	1893
FRANK MILLER	1893
CHARLES GARDNER LATHROP	1893

William E. Caldwell, 510-12 Union Trust Bldg.

ELECTIVE TRUSTEES	TERM EXPIRES
*WHITELAW REID	1912
*GEORGE EDWARD CROTHERS	1912
WILLIAM BABCOCK	1915
CHARLES P. EELLS	1915
VANDERLYNN STOW	1916
JAMES LEROY NICKEL	1919

For Directory of Officers and Committees of the Board, see index.

*Appointed by Mrs. Stanford under ten-year term plan.

OFFICERS OF INSTRUCTION AND ADMINISTRATION*

DAVID STARR JORDAN, President of the University.

M. S., Cornell University, 1872; M. D., Indiana Medical College, 1875; Ph. D., Butler College, 1878; LL. D., Cornell University, 1886, Johns Hopkins University, 1902, Illinois College, 1903. Instructor in Botany, Cornell University, 1871-72; Professor of Natural History, Lombard University, 1872-73; Principal of Appleton (Wis.) Collegiate Institute, 1873-74; Lecturer in Marine Botany at Penikese, 1873-74; Teacher of Natural History, Indianapolis High School, 1874-75; Professor of Biology, Butler College, 1875-79; Instructor in Botany, Harvard Summer School, Cumberland Gap, 1875-76; Assistant to U. S. Fish Commission, 1877-91; Professor of Zoology, Indiana University, 1879-85; President of Indiana University, 1885-91; President of the California Academy of Sciences, 1896-98, 1901-03, 1908; U. S. Commissioner in charge of Fur Seal Investigations, 1896-98, of Salmon Investigations, 1904; International Commissioner of Fisheries, since 1908; President of the American Association for the Advancement of Science, 1908-09. President of Leland Stanford Junior University, since 1891.

JOHN CASPER BRANNER, Vice-President and Professor of Geology.

B. S., Cornell University, 1882; Ph. D., Indiana University, 1885; LL. D., University of Arkansas, 1897, Maryville College, 1909. Assistant Geologist, Imperial Geological Survey of Brazil, 1875-78; Special Botanist in South America, 1880-81; Special Agent of the U. S. Department of Agriculture for Investigating Cotton and the Insects affecting it in Brazil, 1882-83; Topographical Geologist of the Geological Survey of Pennsylvania, Anthracite District, 1883-85; Professor of Geology, Indiana University, 1885-91; State Geologist of Arkansas, 1887-92; President Geological Society of America, 1904; Member California Earthquake Investigation Commission, 1906-07; Special Assistant, Geological Survey of Brazil, 1907-08. At Stanford, since 1891.

OLIVER PEEBLES JENKINS, Professor of Physiology and Histology.

A. B., Moore's Hill College, 1869, A. M., 1872; M. S., Indiana University, 1886, Ph. D., 1889. Professor of Natural Science, Moore's Hill College, 1876-82; Professor of Natural Science, Indiana State Normal School, 1883-86; Professor of Biology, De Pauw University, 1886-91. At Stanford, since 1891.

MELVILLE BEST ANDERSON, Professor of English Literature.

A. M., Butler University, 1877; LL. D., University of Aberdeen, 1906. Professor of Modern Languages, Butler University, 1877-80; Professor of English Literature, Knox College, 1881-86; Professor of Literature and History, Purdue University, 1886-87; Professor of the English Language and Literature, University of Iowa, 1887-91. At Stanford, since 1891.

JOHN MAXSON STILLMAN, Professor of Chemistry.

Ph. B., University of California, 1874, Ph. D., 1885. Assistant in Chemistry, University of California, 1873-75; Student in Chemistry, Strassburg and Würzburg, 1875-76; Instructor in Organic and General Chemistry, University of California, 1876-82; Chemist of the Boston and American Sugar Refining Companies, 1882-91. At Stanford, since 1891.

*Arranged in groups in the order of seniority of appointment. For Directory of Officers, see index.

FERNANDO SANFORD, Professor of Physics.

B. S., Carthage College, 1879, M. S., 1882. Student, University of Berlin, 1886-88; Professor of Physical Science, Mt. Morris College, 1879-82; Superintendent of Schools, Ogle County, Ill., 1882-86; Instructor in Physics and Chemistry, Englewood (Ill.), High School, 1888-90; Professor of Physical Science, Lake Forest University, 1890-91. At Stanford, since 1891.

CHARLES DAVID MARX, Professor of Civil Engineering.

B. C. E., Cornell University, 1878; C. E., Karlsruhe Polytechnicum, 1881. Instructor in Civil Engineering, Karlsruhe Polytechnicum, 1880-81; U. S. Assistant Engineer, Missouri River Improvement, 1882-84; Assistant Professor of Civil Engineering, Cornell University, 1884-90; Professor of Civil Engineering, University of Wisconsin, 1890-91. At Stanford, since 1891.

CHARLES HENRY GILBERT, Professor of Zoology.

B. S., Butler University, 1879; M. S., Indiana University, 1882, Ph. D., 1883; Assistant in Natural Sciences and Modern Languages, Indiana University, 1880-84; Professor of Natural History, University of Cincinnati, 1884-89; Professor of Zoology, Indiana University, 1889-91; Assistant to the U. S. Bureau of Fisheries since 1880. At Stanford, since 1891.

DOUGLAS HOUGHTON CAMPBELL, Professor of Botany.

Ph. M., University of Michigan, 1882, Ph. D., 1886. Teacher of Biology, Detroit High School, 1882-86; Student at Bonn, Tübingen, and Berlin, 1886-88; Professor of Botany, Indiana University, 1888-91. At Stanford, since 1891.

EWALD FLÜGEL, Professor of English Philology.

Ph. D., University of Leipzig, 1886. Student, Universities of Freiburg and Leipzig, 1882-88; Privat Docent, University of Leipzig, 1888-92. At Stanford, since 1892.

CHARLES BENJAMIN WING, Professor of Structural Engineering.

C. E., Cornell University, 1886. Fellow in Civil Engineering, Cornell University, 1886-87, Instructor, 1887-90, Assistant Professor, 1890-91; Engineer, Pompton (N. J.) Powder Co., 1887, Phoenix Powder Co., Farmingdale, N. Y., 1888; Assistant Engineer, Berlin (Conn.) Iron Bridge Co., 1889-90; Professor of Bridge and Hydraulic Engineering, University of Wisconsin, 1891-92. At Stanford, since 1892.

FRANK ANGELL, Professor of Psychology.

B. S., University of Vermont, 1878; Ph. D., University of Leipzig, 1891; L. H. D., University of Vermont, 1892. Teacher in Washington (D. C.) High School, 1880-87; Assistant Professor of Psychology, Cornell University, 1891-92. At Stanford, since 1892.

LEANDER MILLER HOSKINS, Professor of Applied Mathematics.

B. C. E. and B. S., University of Wisconsin, 1883, M. S., 1885, C. E., 1887. Instructor in Engineering, University of Wisconsin, 1885-89, Assistant Professor of Mechanics, 1889-91, Professor of Theoretical and Applied Mechanics, 1891-92. At Stanford, since 1892.

ROBERT EDGAR ALLARDICE, Professor of Mathematics.

A. M., University of Edinburgh, 1882. Baxter Scholar in Mathematics, University of Edinburgh, 1882-83, Drummond Scholar in Mathematics, 1883-84; Assistant Professor of Mathematics, University of Edinburgh, 1883-92. At Stanford, since 1892.

WILLIAM RUSSELL DUDLEY, Professor of Botany.

B. S., Cornell University, 1874, M. S., 1876. Student Summer School, Penikese, 1874, Harvard University, 1876, Universities of Strassburg and Berlin, 1887-88; Instructor in Botany, Cornell University, 1872-76, Assistant Professor, 1876-92. At Stanford, since 1892.

AUGUSTUS TABER MURRAY, Professor of Greek.

A. B., Haverford College, 1885; Ph. D., Johns Hopkins University, 1890. Fellow in Johns Hopkins University, 1887-88; Professor of Greek, Earlham College, 1888-90; Student, Universities of Leipzig and Berlin, 1890-91; Professor of Greek, Colorado College, 1891-92. At Stanford, since 1892.

JOHN ERNST MATZKE, Professor of Romanic Languages.

A. B., Hope College, 1882; Ph. D., Johns Hopkins University, 1888. Professor of French, Bowdoin College, 1889-90; Professor of the Romanic Languages, Indiana University, 1890-91; Associate in the Romanic Languages, Johns Hopkins University, 1891-93. At Stanford, since 1893.

JAMES OWEN GRIFFIN, Professor of German.

Graduate of the Pennsylvania State Normal School, 1873. Teacher in Pennsylvania State Normal School, 1873-74; Principal, Unadilla (N. Y.) Academy, 1874-79; Student, University of Göttingen, 1879-80; Principal of Delaware Academy (Delhi, N. Y.), 1880-85; Instructor in German, Cornell University, 1885-91, Registrar, 1890-91. At Stanford, since 1891.

RUFUS LOT GREEN, Professor of Mathematics.

B. S., Indiana University, 1885, A. M., 1889. Instructor in Mathematics, Indiana University, 1885-86, Assistant Professor, 1886-88, Associate Professor, 1888-91, Professor of Pure Mathematics, 1891-93; Student, Johns Hopkins University, 1886-87. At Stanford, since 1893.

ARLEY BARTHLOW SHOW, Professor of Mediæval History.

A. B., Doane College, 1882; Graduate, Andover Theological Seminary, 1885; A. M., Doane College, 1892. Pastor Congregational Church, Waco, Neb., 1885-87; Professor of History and English Literature, Doane College, 1887-92; Student, University of Leipzig, 1900-01; Lecturer on History of the Early Church, Pacific Theological Seminary, Oakland, 1905-07. At Stanford, since 1892.

ORRIN LESLIE ELLIOTT, Registrar.

Ph. B., Cornell University, 1885, Ph. D., 1890. Fellow in History and Political Science, Cornell University, 1885-86, Instructor in English, 1886-91, Assistant Registrar and President's Secretary, 1890-91. At Stanford, since 1891.

VERNON LYMAN KELLOGG, Professor of Entomology, and Lecturer in Bionomics.

B. S., University of Kansas, 1889, M. S., 1892. Student, Cornell University, 1891, University of Leipzig, 1893; Assistant Professor of Entomology, University of Kansas, 1890-93, Associate Professor, 1893-94. At Stanford, since 1894.

JAMES PERRIN SMITH, Professor of Paleontology.

A. B., Wofford College, 1884; A. M., Vanderbilt University, 1886; Ph. D., University of Göttingen, 1892. Assistant Geologist and Chemist, Arkansas Geological Survey, 1887-90; Assistant Geologist, U. S. Geological Survey, 1895-1906, Geologist since 1906. At Stanford, since 1892.

LIONEL REMOND LENOX, Professor of Analytical Chemistry.

Ph. B., Columbia College, 1888. Assistant Chemist, Bethlehem Iron Co., 1887; Instructor in Chemistry, Lehigh University, 1888-91; Chemist, Ordnance Department, U. S. N., Washington (D. C.), 1891-92. At Stanford, since 1892.

HENRY RUSHTON FAIRCLOUGH, Professor of Latin.

A. B., University of Toronto, 1883, A. M., 1886; Ph. D., Johns Hopkins University, 1896. Fellow in Classics, University College, Toronto, 1883-84; Classical and English Master, Brockville High School, 1884-86; Graduate Scholar, Johns Hopkins University, 1886-87, Fellow, 1887; Lecturer in Greek and Ancient History, University College, Toronto, 1887-93; Professor of Latin, University of Wisconsin, Summer Session, 1906, Columbia University, Summer Session, 1908. At Stanford, since 1893.

WILLIAM FREDERICK DURAND, Professor of Mechanical Engineering.

Graduate U. S. Naval Academy, 1880; Ph. D., Lafayette College, 1888. Engineer Corps, U. S. Navy, 1880-87; Special Duty as Assistant Professor of Mechanical Engineering, Lafayette College, 1883-85, Worcester Polytechnic

Institute, 1887; Professor of Mechanics and Superintendent of Mechanical Department, Michigan State Agricultural and Mechanical College, 1887-91; Professor of Marine Engineering and Principal Graduate School of Naval Architecture and Marine Engineering, Cornell University, 1891-1904. At Stanford, since 1904.

HARRIS JOSEPH RYAN, Professor of Electrical Engineering.

M. E., Cornell University, 1887. With Western Engineering Co., Lincoln, Neb., 1887-88; Instructor in Physics, Cornell University, 1888-89, Assistant Professor of Electrical Engineering, 1889-92, Associate Professor, 1892-95, Professor, 1895-1905; Judge Board of Awards, World's Fair, Chicago, 1893; U. S. Government Delegate, International Electrical Congress, St. Louis Exposition, 1904. At Stanford, since 1905.

GEORGE HEMPL, Professor of Germanic Philology.

A. B., University of Michigan, 1879; Ph. D., University of Jena, 1889; LL. D., University of Wisconsin, 1904. Principal, Saginaw (Mich.) H. S., 1879-82, La Porte (Ind.) H. S., 1882-84; Instructor in German, Johns Hopkins University, 1884-86; Student, Universities of Göttingen, Tübingen, Strassburg, Jena, and Berlin, 1886-89; Assistant Professor of English, University of Michigan, 1889-93, Junior Professor, 1893-97, Professor of English Philology and General Linguistics, 1897-1906; Professor of English, University of Chicago, Summer Quarter, 1897; President of the American Dialect Society, 1900-05; President of the Modern Language Association, 1902-03; President of the American Philological Association, 1903-04. At Stanford, since 1906.

EPHRAIM DOUGLASS ADAMS, Professor of History.

A. B., University of Michigan, 1887, Ph. D., 1890. Principal of High School, McGregor (Ia.), 1887; Principal of High School, Saginaw (Mich.), 1889; Special Agent in Charge of Street Railways, Eleventh Census, Washington (D. C.), 1890; Assistant Professor and afterward Professor of European History, University of Kansas, 1891-1902. At Stanford, since 1902.

EDWARD CURTIS FRANKLIN, Professor of Organic Chemistry.

B. S., University of Kansas, 1888, M. S., 1890; Ph. D., Johns Hopkins University, 1894. Chemist to the Palo Alto Plantation and Sugar Factory, Donaldsonville (La.), 1888; Chemist to the Bella Vista Mining and Milling Co., Los Quemados, Costa Rica, 1897; Instructor in Chemistry, University of Kansas, 1888-90; Student, University of Berlin, 1890-91; Assistant in Chemistry, University of Kansas, 1891-93, Associate Professor, 1894-99, Professor of Physical Chemistry, 1899-1903; Member of the U. S. Assay Commission, 1907. At Stanford, since 1903.

ELLWOOD PATTERSON CUBBERLEY, Professor of Education.

A. B., Indiana University, 1891; A. M., Columbia University, 1902, Ph. D., 1905. Instructor in Science, Ridgeville College (Ind.), 1891; Professor of Physical Science, Vincennes University (Ind.), 1891-93, President, 1893-96; Superintendent of City Schools, San Diego (Cal.), 1896-98; Honorary Fellow, Columbia University, 1901-02, 1904-05. At Stanford, since 1898.

ALPHONSO GERALD NEWCOMER, Professor of English.

A. B., University of Michigan, 1887; A. M., Cornell University, 1888. Fellow in Classics, Cornell University, 1887-88; Principal Mt. Morris (Ill.) H. S., 1888-89; Instructor in Latin and French, Knox College, 1889-91. At Stanford, since 1891.

†CHARLES HENRY HUBERICH, Professor of Law.

LL. B., University of Texas, 1897, LL. M., 1898; D. C. L., Yale University, 1899; J. U. D., University of Heidelberg, 1905; LL. D., University of Melbourne, 1907. Student, Universities of Berlin and Heidelberg, 1899-1900; Instructor in Political Science and Law, University of Texas, 1900-03, Adjunct Professor, 1903-05; Professor of Law, University of Chicago, Summer Session, 1907; Acting Professor of Law, University of Wisconsin, 1909-10. At Stanford, since 1905.

†Absent on leave, 1909-10.

STEWART WOODFORD YOUNG, Professor of Physical Chemistry.

B. S., Cornell University, 1890. Assistant in Chemistry, Cornell University, 1890-91; Instructor in Chemistry, Swarthmore College, 1891-93. At Stanford, since 1893.

FREDERIC CAMPBELL WOODWARD, Professor of Law.

LL. B., Cornell University, 1894, LL. M., 1895; A. M., Dickinson College, 1902. Attorney at Law, practicing in New York City, 1895-98; Professor of Law, Dickinson College, 1898-1902; Professor of Law, Northwestern University, 1902-07; Professor of Law, University of Chicago, Summer Quarter, 1908. At Stanford, since 1907.

JOHN CHARLES LOUNSBURY FISH, Professor of Railroad Engineering.

C. E., Cornell University, 1892. Instructor in Civil Engineering, Cornell University, 1892-93; Division Engineer, Lake Shore and Michigan Southern Railway, 1906-08. At Stanford, since 1893.

ALLYN ABBOTT YOUNG, Professor of Economics.

Ph. B., Hiram College, 1894; Ph. D., University of Wisconsin, 1902. Student Clerk, United States Census, 1899-1900; University Fellow in Economics, University of Wisconsin, 1900-01, Instructor, 1901-02; Instructor in Economics, Western Reserve University, 1902-04, Associate Professor, 1904; Assistant Professor of Finance, Dartmouth College, 1904-05; Assistant Professor of Economics, University of Wisconsin, 1905-06. At Stanford, since 1906.

*JOHN ANDREW BERGSTRÖM, Professor of Education.

A. B., Wesleyan University, 1890; Ph. D., Clark University, 1894. Assistant Professor of Psychology and Pedagogy, Indiana University, 1894-96, Associate Professor, 1896-1902, Professor, 1902-08.

BURT ESTES HOWARD, Professor of Political Science.

A. B., Western Reserve University, 1883, A. M., 1886; A. M., Harvard University, 1900; Ph. D., University of Heidelberg, 1903. Student, University of Berlin, 1903-04; Assistant Professor of Political Science, Leland Stanford Junior University, 1900-01, Acting Associate Professor, 1901-02. At Stanford, 1900-02, and since 1908.

ADOLPH BARKAN, Professor of Structure and Diseases of the Eye, Ear, and Larynx.

M. D., University of Vienna, 1866; LL. D., University of Glasgow, 1901. Professor of Ophthalmology and Otology, Medical Department, University of the Pacific, 1872-82, Cooper Medical College, since 1882; Member of the Heidelberg Ophthalmological Society; Member of the Otological Society of Germany; Eye and Ear Surgeon, Lane Hospital, since 1895. At Stanford, since 1909.

HENRY GIBBONS, JR., Professor of Obstetrics.

M. D., University of the Pacific, 1863; A. M., 1891. Dean of the Medical Department of the University of the Pacific, 1870-82, Professor of Materia Medica, 1870-73, of Obstetrics and Diseases of Women and Children, 1873-82; Dean of Cooper Medical College and Professor of Obstetrics and Diseases of Women and Children, since 1882; President of the State Medical Society of California, 1896; Visiting Obstetrician to Lane Hospital since 1895; Member of American Association of Obstetricians and Gynecologists. At Stanford, since 1909.

JOSEPH OAKLAND HIRSCHFELDER, Professor of Clinical Medicine.

M. D., University of Leipzig, 1876. Professor of Materia Medica, Medical College of the Pacific, 1877-81, Professor of Clinical Medicine, 1881-82;

*Died February 28, 1910.

Professor of Clinical Medicine, Cooper Medical College, since 1882; Visiting Physician, City and County Hospital of San Francisco, since 1878; Visiting Physician, Lane Hospital, since 1895. At Stanford, since 1909.

STANLEY STILLMAN, Professor of Surgery.

M. D., Cooper Medical College, 1889. Adjunct Professor of Surgery, Cooper Medical College, 1895-98, Professor of Surgery, since 1898; Assistant Visiting Surgeon, City and County Hospital, San Francisco, 1891-99, Visiting Surgeon, since 1899; Visiting Surgeon, Lane Hospital, since 1895; Fellow of the American Surgical Association. At Stanford, since 1909.

EMMET RIXFORD, Professor of Surgery.

B. S., University of California, 1887; M. D., Cooper Medical College, 1891. Adjunct Professor of Surgery, Cooper Medical College, 1893-98, Professor, since 1898; Visiting Surgeon, Lane Hospital, 1895, City and County Hospital, San Francisco, since 1899; Fellow, American Surgical Association, 1901; Member Society of Clinical Surgery, 1903. At Stanford, since 1909.

WILLIAM OPHÜLS, Professor of Pathology.

M. D., University of Göttingen, 1895. Assistant at the Pathologic Institute at Göttingen, 1896-97; Professor of Pathology and Bacteriology, University of Missouri, 1897-98; Professor of Pathology and Bacteriology, Cooper Medical College, since 1898; Pathologist, Lane Hospital, since 1898. Member of the Association of American Pathologists and Bacteriologists; Member of the Society for Experimental Biology and Medicine. At Stanford, since 1909.

†RAY LYMAN WILBUR, Professor of Medicine.

A. B., Leland Stanford Junior University, 1896, A. M., 1897; M. D., Cooper Medical College, 1899. Assistant in Physiology, Leland Stanford Junior University, 1894-96, Instructor, 1896-97, Assistant Professor, 1900-03; Lecturer and Demonstrator in Physiology, Cooper Medical College, 1899-1900. At Stanford 1894-97, 1900-03, and since 1909.

ARTHUR WILLIAM MEYER, Professor of Human Anatomy.

B. S., University of Wisconsin, 1898; M. D., Johns Hopkins University, 1905; Assistant and Instructor in Anatomy, Johns Hopkins University, 1905-07; Assistant Professor of Anatomy, University of Minnesota, 1907-08; Professor of Anatomy, Northwestern University, 1908-09. At Stanford, since 1909.

HERBERT EUGENE BOLTON, Professor of American History.

B. L., University of Wisconsin, 1895; Ph. D., University of Pennsylvania, 1899. Graduate Student, University of Wisconsin, 1896-97; Harrison Fellow in History, University of Pennsylvania, 1897-99; Teacher of History, State Normal School, Milwaukee, Wis., 1899-1901; Instructor in History, University of Texas, 1901-05, Adjunct Professor, 1905-08, Associate Professor, 1908-09; engaged in the archives of Mexico for the Department of Historical Research of the Carnegie Institution of Washington, D. C., 1907-08. At Stanford, since 1909.

WILLIAM FITCH CHENEY, Clinical Professor of Diseases of the Digestive System.

B. L., University of California, 1885; M. D., Cooper Medical College, 1889; Post-graduate courses, Johns Hopkins Medical School, 1893; Professor of Principles and Practice of Medicine, Cooper Medical College, since 1898; First Lieutenant, Medical Reserve Corps, U. S. A., 1908. Member of the American Medical Association, and of The National Association for the Study and Prevention of Tuberculosis. At Stanford, since 1909.

FRANK MACE McFARLAND, Professor of Histology.

Ph. B., De Pauw University, 1889; A. M., Leland Stanford, Jr., University, 1893; Ph. D., University of Würzburg, 1896. Professor of Biology and Geology, Olivet College, 1889-92; Student, Würzburg, Zürich, and Naples, 1894-96. At Stanford, since 1892.

†Absent on leave, 1909-10.

†JOHN FLESHER NEWSOM, Professor of Mining.

A. B., Indiana University, 1891; A. M., Leland Stanford Jr. University, 1892, Ph. D., 1901. Assistant, Arkansas Geological Survey, 1891-95; Instructor in Geology, Indiana University, 1894-96, Assistant Professor, 1896-98. At Stanford, since 1898.

HAROLD HEATH, Professor of Zoology.

A. B., Ohio Wesleyan University, 1893; Ph. D., University of Pennsylvania, 1898. Assistant in Biology, Ohio Wesleyan University, 1891-93; Professor of Biology, University of the Pacific, 1893-94; Harrison Fellow in Zoology, University of Pennsylvania, 1896-98. At Stanford, since 1894.

ARTHUR MARTIN CATHCART, Professor of Law.

A. B., Leland Stanford Jr. University, 1896. Student, Harvard University, 1896-97; Registered Office Clerk with Attorneys of Colorado Supreme Court, 1900-02; Attorney at Law, Colorado Springs (Colo), 1903-04. At Stanford, since 1904.

‡JAMES FARLEY McCLELLAND, Professor of Mining.

E. M., Columbia University, 1900. Instructor in Geology and Mining, University of Wyoming, 1900-01; with Indiana Gold Dredging Co., Oroville (Cal.), 1901-02; Instructor in Mining, Columbia University, 1902-05; General Mining Practice, Tonopah (Nev.), 1905-08; Lecturer in Mining, Yale University, spring term, 1908, 1909. At Stanford, 1908-10.

WESLEY NEWCOMB HOHFELD, Professor of Law.

A. B., University of California, 1901; LL. B., Harvard University, 1904. Attorney at Law, San Francisco, 1904-05; Instructor, Hastings College of Law, University of California, 1905; Member of Faculty of Law, University of California, Summer Session, 1907; Member of Faculty of Law, University of Chicago, Summer Quarter, 1908. At Stanford, since 1905.

GUIDO HUGO MARX, Professor of Mechanical Engineering.

M. E., Cornell University, 1893. With Gleason Tool Co., Rochester (N. Y.), 1893-94; with Bement, Miles & Co., Philadelphia, 1894-95. At Stanford, since 1895.

HENRY WALDGRAVE STUART, Professor of Philosophy.

Ph. B., University of California, 1893; Ph. D., University of Chicago, 1900. Teacher, Hollister (Cal.) H. S., 1893-94; Fellow in Political Economy, University of Chicago, 1894-96; Instructor (pro tem) in Economics and Psychology, Washington University, St. Louis, 1896-97; Teacher, Central School, Oakland (Cal.), 1897-98; Principal, Woodland (Cal.) H. S., 1898-99; Fellow in Philosophy, University of Chicago, 1899-1900; Instructor in Economics and History, Ripon College, 1900-01; Instructor in Philosophy, State University of Iowa, 1901-04; Acting Professor of Philosophy, Lake Forest College, 1904-05, Assistant Professor, 1905-07. At Stanford, since 1907.

GEORGE CLINTON PRICE, Professor of Zoology.

B. S., De Pauw University, 1890; Ph. D., Leland Stanford Jr. University, 1897. Student in Biology, Johns Hopkins University, 1890-92, University of Munich, 1895-96. At Stanford, since 1892.

GEORGE JAMES PEIRCE, Professor of Botany and Plant Physiology.

S. B., Harvard University, 1890; A. M. and Ph. D., University of Leipzig, 1894. Assistant in Botany, Harvard University and Radcliffe College, 1890-92; Parker Fellow in Harvard University, studying in Bonn, Leipzig, and Munich, 1892-94; Assistant Professor of Botany, Indiana University, 1895-97. At Stanford, since 1897.

†Absent on leave, 1909-10.

‡Resigned December, 1907.

HOWARD LESLIE SMITH, Acting Professor of Law.

A. B., University of Wisconsin, 1881, LL. B., 1885. Principal, Elkhorn (Wis.) H. S., 1881-83; Student, Universities of Heidelberg and Paris, 1883-84; Practiced Law, Madison (Wis.), 1885-87, St. Paul (Minn.), 1887-93, Chicago (Ill.), 1893-1900; Professor of Law, University of Wisconsin, since 1900. At Stanford, 1909-10.

*ADDISON WEBSTER MOORE, Acting Professor of Philosophy.

A. B., De Pauw University, 1890, A. M., 1891; Ph. D., University of Chicago, 1898. Principal Marion (Ind.) H. S., 1891-92; Instructor in English, De Pauw University, 1892-93; Sage Scholar in Cornell University, 1893-94; Fellow in Philosophy, University of Chicago, 1894-95, Assistant, 1895-97, Associate, 1897-98, Instructor, 1898-1902, Assistant Professor, 1902-04, Associate Professor, 1904-08, Professor, since 1908.

ARTHUR BRIDGMAN CLARK, Associate Professor of Graphic Arts.

B. Ar., Syracuse University, 1888, M. Ar., 1891. Director of Trade Schools and Instructor in Drawing, New York State Reformatory, Elmira (N. Y.), 1888-89; Instructor in Architecture, Syracuse University, 1889-92. At Stanford, since 1892.

†GEORGE ARCHIBALD CLARK, Academic Secretary.

B. L., University of Minnesota, 1891. Secretary, U. S. Fur Seal Commission, 1896-98. At Stanford, since 1891.

OLIVER MARTIN JOHNSTON, Associate Professor of Romanic Languages.

A. B., Mississippi College, 1890, A. M., 1892; Ph. D., Johns Hopkins University, 1896. Principal, Preparatory Department, Mississippi College, 1890-91, Professor of English, 1891-93; Fellow in Johns Hopkins University, 1895-96; Lecturer in French Philology, Byrn Mawr College, 1896-97. At Stanford, since 1897.

HENRY WINCHESTER ROLFE, Associate Professor of Greek.

A. B., Amherst College, 1880, A. M., 1885. Student, University of Leipzig, 1881-83; Instructor in English, Cornell University, 1883-85; Professor of Latin, Swarthmore College, 1885-90; Lecturer on Latin Literature to Postgraduate Students, University of Pennsylvania, 1891-92; University Extension Lecturer, 1891-1900. At Stanford, since 1901.

DAVID CHARLES GARDNER, Chaplain.

Graduate, Church Divinity School of the Pacific, San Mateo, 1897. Curate, St. James Mission, San Francisco, 1898; Rector of All Saints Church, Palo Alto, 1898-1902. At Stanford, since 1902.

‡WILLIAM FREEMAN SNOW, Associate Professor of Hygiene.

A. B., Leland Stanford Jr. University, 1896, A. M., 1897; M. D., Cooper Medical College, 1900. Student, Johns Hopkins Medical School, 1901-02; Secretary California State Board of Health, 1909-10. At Stanford, since 1901.

HANS FREDERIK BLICHFELDT, Associate Professor of Mathematics.

A. B., Leland Stanford Jr. University, 1896; Ph. D., University of Leipzig, 1898. At Stanford, since 1898.

§THORSTEIN B. VEBLEN, Associate Professor of Economics.

A. B., Carleton College, 1880; Ph. D., Yale University, 1884. Graduate Student, Johns Hopkins University; Fellow in Economics and Finance, Cornell University, 1891-92; Fellow in Political Economy, University of Chicago,

*For second semester, 1910-11.

†Absent on leave, July, 1909, to March, 1910.

‡Absent on leave, 1909-10.

§Resigned, December, 1909.

1892-93, Reader, 1893-94, Associate, 1894-96, Instructor, 1896-1900, Assistant Professor, 1900-06. At Stanford, 1906-09.

ALBERT CONSER WHITAKER, Associate Professor of Economics.

A. B., Leland Stanford Jr. University, 1899; Ph. D., Columbia University, 1904. Scholar in Economics, Columbia University, 1899-1900, Fellow, 1900-01; Student, University of Berlin, 1901-02; Lecturer in Economics and Social Science, Columbia University, 1906-07. At Stanford, since 1902.

†ROBERT ECKLES SWAIN, Associate Professor of Chemistry.

A. B., Leland Stanford Jr. University, 1899; M. S., Yale University, 1901, Ph. D., 1904. Student, Universities of Strassburg and Heidelberg, 1901-02. At Stanford, since 1898.

GEORGE THOMAS CLARK, Librarian.

B. S., University of California, 1886. Assistant Librarian, University of California, 1886-87; Deputy State Librarian, California State Library, 1887-90, Classifier, 1890-94; Librarian, San Francisco Public Library, 1894-1907. At Stanford, since 1907.

FREDERICK JOHN ROGERS, Associate Professor of Physics.

M. S., Cornell University, 1891. Instructor in Physics, Cornell University, 1892-1900. At Stanford, since 1900.

KARL G. RENDTORFF, Associate Professor of German.

A. M., Leland Stanford Jr. University, 1894, Ph. D., 1896. Student, University of Giessen, 1884-85, University of Kiel, 1885-91. At Stanford, since 1894.

LILLIEN JANE MARTIN, Associate Professor of Psychology.

A. B., Vassar College, 1880. Teacher of Science, Indianapolis High School, 1880-89; Vice-Principal and Head of Department of Science, Girls' High School, San Francisco, 1889-94; Student, University of Göttingen, 1894-98. At Stanford, since 1899.

RAYMOND MACDONALD ALDEN, Associate Professor of English Literature and Rhetoric.

A. B., University of Pennsylvania, 1894; A. M., Harvard University, 1896; Ph. D., University of Pennsylvania, 1898. Instructor in English, Columbia University, Washington (D. C.), 1894-95; Assistant in English, Harvard University, 1896-97; Senior Fellow in English, University of Pennsylvania, 1898-99, Instructor, 1899-1901. At Stanford, since 1901.

WILLIAM ALPHA COOPER, Associate Professor of German.

A. B., Marietta College, 1892, A. M., 1897. Student, Universities of Bonn, Leipzig, and Paris, 1892-94; Instructor in German and French, Marietta College, 1895-99, Professor, 1899-1901. At Stanford, since 1901.

†WILLIAM RANKINE ECKART, Associate Professor of Mechanical Engineering.

M. E., Cornell University, 1895. Mechanical Engineer, Siemens Halske Electric Co., Chicago, 1895-96; Construction Engineer, Allison Ranch Mine, Grass Valley (Cal.), 1896-98; Testing Work for Fraser & Chalmers, in Hawaii and Mexico, 1898-99; with W. R. Eckart, Consulting Engineer, Hydraulic Power Plants and Mining Work, 1899-1903, summers of 1904-08; Consulting Engineer, Geary St. P. & O. R. R., San Francisco, 1902-06. At Stanford, since 1904.

HALCOTT CADWALADER MORENO, Associate Professor of Applied Mathematics.

A. B., University of Georgia, 1893, A. M., 1894, B. L., 1896; Ph. D., Clark University, 1900. Tutor in Mathematics, University of Georgia, 1893-97; Scholar and Fellow in Mathematics, Clark University, 1897-1900; Assistant in Mathematics, Clark University, 1900-01. At Stanford, since 1901.

†Absent on leave, 1909-10.

CHARLES ANDREWS HUSTON, Associate Professor of Law.

A. B., University of Chicago, 1902, J. D., 1907. Fellow in Political Economy, University of Chicago, 1902-03. Assistant in Rhetoric, 1903-04, Associate in Rhetoric, 1904-06. At Stanford, since 1906.

JOSEPH WALTER BINGHAM, Associate Professor of Law.

A. B., University of Chicago, 1902, J. D., 1904. In practice of law, Chicago, 1904-05; Acting Assistant Professor of Law, Cornell University, 1905-07. At Stanford, since 1907.

SIDNEY DEAN TOWNLEY, Associate Professor of Applied Mathematics.

B. S., University of Wisconsin, 1890, M. S., 1892; D. Sc., University of Michigan, 1897. Fellow in Astronomy, University of Wisconsin, 1890-91, Assistant in Astronomy and Mathematics, 1891-92; Hearst Fellow in Astronomy, University of California (Lick Observatory), 1892-93; Instructor in Astronomy, University of Michigan, 1893-95, 1896-98; Student, Universities of Berlin and Munich, 1895-96; Instructor in Practical Astronomy, University of California, 1898-1903, Lecturer in Astronomy, 1904-07; Astronomer in Charge of International Latitude Observatory, 1903-07. At Stanford, since 1907.

EDWARD BENJAMIN KREHBIEL, Associate Professor of History.

A. B., University of Kansas, 1902; Ph. D., University of Chicago, 1906. Graduate Student, University of Chicago, 1902-06, Fellow, 1903-05, Assistant, 1904-1906; Graduate Student, Harvard University, 1904; Student, École de Chartes, Paris, 1905; Instructor, University of Chicago High School, 1905-06; Associate in History, University of Chicago, 1906-07, Instructor, 1907-09. At Stanford, since 1909.

*HANS ZINSSER, Associate Professor of Bacteriology.

A. B., Columbia University, 1899, M. D., 1903. Instructor in Bacteriology and Hygiene, Columbia University.

COLBERT SEARLES, Assistant Professor of Romanic Languages.

A. B., Wesleyan University, 1895; Ph. D., University of Leipzig, 1899. Instructor in French and Italian, Indiana University, 1899-1900; Associate Professor of English and Modern Languages, University of Arkansas, 1900-01. At Stanford, since 1901.

JEFFERSON ELMORE, Assistant Professor of Latin.

A. B., Leland Stanford Jr. University, 1895, A. M., 1895, Ph. D., 1901. Principal of Merced County High School, 1895-97; Student, Universities of Bonn and Berlin, 1901-02. At Stanford, since 1898.

JOHN OTTERBEIN SNYDER, Assistant Professor of Zoology.

A. B., Leland Stanford Jr. University, 1897, A. M., 1899. Assistant U. S. Fish Commission, 1897, 1899, 1904; Naturalist on U. S. S. Albatross engaged in deep sea investigations, 1902, 1906. At Stanford, since 1897.

†HARRY ALVIN MILLIS, Assistant Professor of Economics.

A. B., Indiana University, 1895, A. M., 1896; Ph. D., University of Chicago, 1899. Reference Librarian, John Crerar Library, Chicago, 1899-1902; Professor of Economics and Sociology, University of Arkansas, 1902-03. At Stanford, since 1903.

JAMES ROLLIN SLONAKER, Assistant Professor of Physiology.

B. S., University of Wisconsin, 1893; Ph. D., Clark University, 1896. Fellow in Biology, Clark University, 1893-96; United States Fish Commission, Woods Holl (Mass.), summer, 1895; Instructor in Zoology, Indiana University,

*Beginning September, 1910.

†Absent on leave, first semester, 1909-10.

1896-99, Indiana University Biological Station, 1896-1900; Assistant Professor of Zoology, Indiana University, 1899-1901; Research Assistant in Neurology, University of Chicago, 1901-02, Associate in Neurology, 1902-03. At Stanford, since 1903.

CLARA S. STOLTENBERG, Assistant Professor of Physiology.

A. B., Leland Stanford Jr. University, 1896, A. M., 1897. At Stanford, since 1896.

SAMUEL SWAYZE SEWARD, JR., Assistant Professor of English.

A. B., Columbia College, 1896; A. M., Columbia University, 1897. Scholar in Literature, Columbia University, 1896-97. Assistant in Literature, 1897-99; Student, Oxford University, 1899-1900; Acting Professor of English, University of Nevada, 1907; Assistant Professor of English, University of California, summer session, 1907, University of Oregon, summer session, 1908. At Stanford, since 1900.

BENJAMIN OLIVER FOSTER, Assistant Professor of Latin.

A. B., Leland Stanford Jr. University, 1895; A. M., Harvard University, 1897, Ph. D., 1899. Parker Fellow of Harvard University, studying in the American School of Classical Studies in Rome, 1899-1900; Acting Professor of Latin and Greek, State Normal College of Michigan, 1900-01; Instructor, University of California, Summer Session, 1908. At Stanford, since 1901.

†HENRY LEWIN CANNON, Assistant Professor of History.

A. B., Western Reserve University, 1893; Ph. D., University of Pennsylvania, 1898. Student, Harvard University, 1893-94, Yale University, 1896-97; Fellow in European History, University of Pennsylvania, 1897-98; Instructor in History, University of Cincinnati, 1900-03. At Stanford, since 1903.

HOWARD JUDSON HALL, Assistant Professor of English.

B. S., Michigan State Agricultural College, 1890; A. B., Leland Stanford Jr. University, 1896; A. M., Harvard University, 1900. Professor of English and Librarian, University of Arizona, 1891-1904. At Stanford, since 1904.

AUSTIN FLINT ROGERS, Assistant Professor of Mineralogy and Petrography.

A. B., University of Kansas, 1899, A. M., 1900; Ph. D., Columbia University, 1902. Assistant in Mineralogy, University of Kansas, 1898-1900; Assistant Geologist, University Geological Survey of Kansas, 1898-1900, 1903; Fellow in Mineralogy, Columbia University, 1900-02, Tutor in Mineralogy, 1902-05. At Stanford, since 1905.

MACY MILLMORE SKINNER, Assistant Professor of German.

A. B., Harvard University, 1894, A. M., 1895, Ph. D., 1897. Harvard Fellow, University of Strassburg, 1897-98, University of Berlin, 1898-99; Instructor in German, Harvard University, 1899-1905. At Stanford, since 1905.

ELMER REGINALD DREW, Assistant Professor of Physics.

B. S., University of California, 1888; Ph. D., Cornell University, 1903. Student, University of Chicago, 1897-98, University of Berlin, 1903-05; Assistant in Physics, University of California, 1889-92, Instructor, 1892-1902. At Stanford, since 1905.

LEE EMERSON BASSETT, Assistant Professor of English.

A. B., Leland Stanford Jr. University, 1901. Graduate Cumnock School of Oratory, Los Angeles, 1898; Instructor in Public Speaking, University of Southern California, 1898-99; Student, School of Expression, Boston, 1901; Student, Department of Literature, University of Chicago, summer, 1904; Student at Oxford, 1907-08. At Stanford, since 1901.

†ERNEST WHITNEY MARTIN, Assistant Professor of Greek and Latin.

A. B., University of Chicago, 1900; A. M., Leland Stanford Jr. University, 1902. Instructor in Latin and Greek, Private School, Clarinda (Ia.), 1895-96,

†Absent on leave, 1909-10.

Principal of High School, 1896-98; Student, University of Berlin, and American School of Classical Studies, Rome, 1900-01; Acting Professor of Latin and Greek, University of Nevada, 1908-10. At Stanford, since 1901.

HENRY DAVID GRAY, Assistant Professor of English.

Ph. B., Colgate University, 1897; A. M., Columbia University, 1898, Ph. D., 1904. Assistant in German and French, Colgate Academy, 1896-97; University Scholar, Columbia University, 1898-1900; Instructor in Dramatic Literature, American Academy of Dramatic Arts, 1900-02; Instructor in English, University of Texas, 1902-05; Lecturer in English, Columbia University, Summer Session, 1905. At Stanford, since 1905.

WILLIAM DINSMORE BRIGGS, Assistant Professor of English.

A. B., Leland Stanford Jr. University, 1896; A. M., Harvard University, 1899, Ph. D., 1900. Student, Johns Hopkins University, 1896-97; Instructor in English and German, University of Vermont, 1900-01; Instructor in English, Western Reserve University, 1901-06. At Stanford, since 1906.

LEROY ABRAMS, Assistant Professor of Botany.

A. B., Leland Stanford Jr. University, 1899, A. M., 1902. Acting Professor of Botany, University of Idaho, 1899-1900; Assistant in Botany, Leland Stanford Jr. University, 1900-02, Instructor, 1902-04; Fellow in Botany, Columbia University, 1904-05; Assistant Curator, Division of Plants, United States National Museum, 1905-06. At Stanford, 1900-04, and since 1906.

JAMES MARVIN MOTLEY, Assistant Professor of Political Economy.

A. B., William Jewell College, 1901, A. M., 1904; Ph. D., Johns Hopkins University, 1906. Fellow in Economics, Johns Hopkins University, 1904, Instructor, 1906; Acting Secretary, Baltimore Federated Charities, 1905; Professor of Economics and Sociology, Wells College, 1906-07. At Stanford, since 1907.

JOHN EZRA McDOWELL, Assistant Registrar.

A. B., Leland Stanford Jr. University, 1900. At Stanford, since 1900.

CLIFFORD GILMORE ALLEN, Assistant Professor of Romanic Languages.

A. B., Boston University, 1900; A. M., Leland Stanford Jr. University, 1903; Docteur de l'Université de Paris, 1906. Student, University of Paris, 1903-04; Fellow of Boston University and Student of Universities of Paris and Madrid, 1904-05. At Stanford, since 1901.

†WILLIAM ALBERT MANNING, Assistant Professor of Mathematics.

A. B., Willamette University, 1900; A. M., Leland Stanford Jr. University, 1902, Ph. D., 1904; Acting Assistant Professor of Mathematics, University of Illinois, 1909-10. At Stanford, since 1900.

JOSEPH GRANT BROWN, Assistant Professor of Physics.

A. B., Leland Stanford Jr. University, 1901, A. M., 1903. Graduate, Illinois State Normal University, 1894, Instructor in Physics and Chemistry, 1894-98. At Stanford, since 1900.

ALBERT LÉON GUÉRARD, Assistant Professor of French.

B. A., Paris, 1898; Agrégé de l'Université de France, 1906. Traveling Scholarship in England, 1901-03; Junior Professor of French Literature and Examiner in History, State Normal School, Paris, 1904-06; Instructor in the Romanic Languages, Williams College, 1906-07. At Stanford, since 1907.

†Absent on leave, 1909-10.

EVELYN WIGHT ALLAN, Dean of Women.

B. S., St. Lawrence University, 1891; A. B., Leland Stanford Jr. University, 1896. Teacher in Montclair (N. J.) High School, 1892-95; Teacher of English, Jersey City High School, 1897-99; Graduate Student at Columbia University, 1907; Teacher of English, Manual Training High School, Brooklyn (N. Y.), 1899-1908. At Stanford, since 1908.

EDWIN CHAPIN STARKS, Assistant Professor of Zoology.

Assistant in United States Bureau of Biological Survey, 1897-99; Curator of the Museum and Assistant Professor of Zoology, University of Washington, 1899-1900. At Stanford, since 1900.

SAMUEL BARCLAY CHARTERS, Jr., Assistant Professor of Electrical Engineering.

M. E., Cornell University, 1904. Delegate International Electrical Congress, St. Louis Exposition, 1904; with Westinghouse Electric & Mfg. Company, Pittsburgh (Pa.), 1904-05. At Stanford, since 1905.

EVERETT PARKER LESLEY, Assistant Professor of Mechanical Engineering.

A. B., Leland Stanford Jr. University, 1897; M. M. E., Cornell University, 1905. Apprentice and Foreman in Union Iron Works, San Francisco, 1897-1903. Assistant Inspector to Naval Constructor, 1903-04; Draftsman at U. S. Experimental Model Basin, Washington (D. C.), 1905-07. At Stanford, since 1907.

ROBERT BARTHOLOW HARSHE, Assistant Professor of Graphic Arts.

B. L., University of Missouri, 1899. Graduate Student, University of Missouri, 1899-1901; Student Chicago Art Institute, 1901-02; Supervisor Manual Arts, Columbus (Ga.), 1902; Instructor, Summer School of the South, 1903; Manual Training Scholar, Teachers' College, Columbia University, 1903-04; Scholar, Ipswich Summer School, 1904, Art Students' League, 1904-05; Instructor, University of Missouri, 1905-06; Instructor, New York School of Industrial Art, 1906-07; Director, Nantucket Summer School of Design, 1907. At Stanford, since 1907.

PERCY ERWIN DAVIDSON, Assistant Professor of Education.

A. B., Leland Stanford Jr. University, 1898; A. M., Harvard University, 1905. Teacher, Grammar and High Schools, San Diego (Cal.), 1898-1900; Supervisor of History and English Teaching, San Francisco State Normal School, 1900-03; Assistant in Education, San Diego State Normal, 1903-04; Graduate Student, Teachers' College, Columbia University, 1905-07; Instructor in Logic and History of Education, New York Training School for Teachers, 1906-07. At Stanford, since 1907.

GEORGE HOLLAND SABINE, Assistant Professor of Philosophy.

A. B., Cornell University, 1903, Ph. D., 1906. Sage Fellow in Philosophy, Cornell University, 1905-06, Assistant in Philosophy, 1906-07. At Stanford, since 1907.

PAYSON JACKSON TREAT, Assistant Professor of History.

A. B., Wesleyan University, 1900; A. M., Columbia University, 1903. Instructor in History, Barnard School, New York City, 1900-03; Graduate Student, Leland Stanford Jr. University, 1903-05; Research Student in Far East, 1906-07; Instructor in Government, Harvard University, 1908-09. At Stanford, since 1905.

MARY ISABEL McCRACKEN, Assistant Professor of Bionomics.

A. B., Leland Stanford Jr. University, 1904, A. M., 1905, Ph. D., 1908. At Stanford, since 1904.

RENNIE WILBUR DOANE, Assistant Professor of Entomology.

A. B., Leland Stanford Jr. University, 1896. Assistant in Zoology and Botany, Washington State College, 1896-99. Assistant Professor of Zoology

and Entomology, 1899-1901; Superintendent Fisheries Experiment Station, Keyport, (Wn.), 1901-03. At Stanford, since 1905.

WALTER KENRICK FISHER, Assistant Professor of Zoology.

A. B., Leland Stanford Jr. University, 1901, A. M., 1903, Ph. D., 1906. Assistant, U. S. Biological Survey, 1897-1901, 1903; Assistant, U. S. Fish Commission, 1902. At Stanford, since 1902.

JOHN PEARCE MITCHELL, Assistant Professor of Chemistry.

A. B., Leland Stanford Jr. University, 1903, A. M., 1904, Ph. D., 1909. Student, University of Leipzig, 1904-05. At Stanford, 1903-04, and since 1905.

LEONAS LANCELOT BURLINGAME, Assistant Professor of Botany.

Ph. B., Ohio Northern University, 1901; A. B., University of Chicago, 1906, Ph. D., 1908. Instructor in Biology, Ohio Northern University, 1901-04; Fellow in Botany, University of Chicago, 1906, Assistant, 1906-08. At Stanford, since 1908.

DAVID MORRILL FOLSOM, Assistant Professor of Mining.

A. B., Leland Stanford Junior University, 1902, Engineer, 1904. Student Columbia School of Mines, 1902-03; Engineer with Boston and Montana Consolidated Copper and Silver Mining Co., 1904-09.

RUFUS CLARENCE BENTLEY, Assistant Professor of Education.

A. B., University of Nebraska, 1894, A. M., 1896. Assistant in Psychology, University of Nebraska, 1893-96; Principal of Schools, Shelton (Neb.), 1896-97; Principal of High School, Martinez (Cal.), 1897-98; Principal of High School and Supervising Principal of Schools, San Rafael (Cal.), 1898-1900; Fellow, Columbia University, 1900-01; Fellow, Clark University, 1901-03; Dean of Clark College, 1902-09, Professor of Latin, 1902-04, Professor of Pedagogy, 1904-09.

ROYCE REED LONG, Assistant Professor of Hygiene.

A. B., Leland Stanford Jr. University, 1908. Physical Director, Young Men's Christian Association, Dixon (Ill.), 1897-98, Aurora (Ill.), 1899-1900; Assistant in Encina Gymnasium, 1902-04; Director of Vanderbilt University Gymnasium, 1904-06. At Stanford, since 1906.

WILLIAM ARTHUR HILLEBRAND, Assistant Professor of Electrical Engineering.

A. B., Cornell University, 1905. Student, Leland Stanford Jr. University, 1905-06; with Western Electric Company, San Francisco and Los Angeles, 1906-07. At Stanford, since 1907.

GALEN HOWELL CLEVENGER, Assistant Professor of Metallurgy.

B. S., South Dakota School of Mines, 1901; A. M., Columbia University, 1903. At Stanford, 1904-06, and since 1909.

LUTHER WILLIAM BAHNEY, Assistant Professor of Metallurgy.

Ph. G., University of California, 1897. Instructor in Chemistry and Microscopy, Department of Pharmacy, University of California, 1898-1900; Sampler, Copper King Mine Company, 1900-01; Student in Chemistry with L. Falkenau, 1901-02; Chemist and Chief Assayer, Selby Smelting and Lead Company, 1902-06; Manager of Xitinga Mines, Mexico, 1906. At Stanford, since 1907.

*LEWIS MADISON TERMAN, Assistant Professor of Education.

A. B., Indiana University, 1902, A. M., 1903; Ph. D., Clark University, 1905. Fellow in Psychology and Education, Clark University, 1903-05; Principal of High School, San Bernardino (Cal.), 1905-06; Head of Department of Child Study and Pedagogy, Los Angeles State Normal School, 1906-10; Instructor in Education, Indiana University, Summer Session, 1909.

*Beginning September, 1910.

ERNEST WILLIAM PONZER, Assistant Professor of Applied Mathematics.

B. S., University of Illinois, 1900, M. S., 1903. Instructor in Mathematics, University of Illinois, 1900-09.

*FRANK ELLSWORTH BLAISDELL, Assistant Professor of Applied Anatomy.

M. D., Cooper Medical College, 1889. Demonstrator of Anatomy, Cooper Medical College, 1903, Instructor in Biology and Embryology, 1900-09, in Histology, 1907-09, Assistant Professor of Anatomy, 1904-05, Associate Professor, since 1907.

*ERNEST CHARLES DICKSON, Assistant Professor of Pathology.

A. B., University of Toronto, 1904, M. B., 1906. Assistant Demonstrator in Physiology, including Physiological Chemistry and Pharmacology, University of Toronto, 1904-05, George Brown Research Scholar, 1906-07; Interne, Toronto General Hospital, 1907, Assistant Demonstrator in Pathology, in charge of Clinical Laboratory, 1907; Assistant Resident Physician, Johns Hopkins' Hospital, 1907-08; Instructor in Pathology and Bacteriology, Cooper Medical College, since 1908.

GEORGE HENRY DANTON, Acting Assistant Professor of German.

A. B., Columbia University, 1902, Ph. D., 1906. Assistant in Comparative Literature, Columbia University, 1902-03; Austin Teaching Fellow in German, Harvard University, 1903-04; Ottendorfer Memorial Fellow, New York University, and Student, Berlin and Munich, 1904-05; Instructor in German, College for Women, Western Reserve University, 1905-07.

EDWARD JOHN STANLEY, Instructor in Pattern Making.

Machinist with Pacific Iron Works, San Francisco, 1879, Blacksmith, 1880, Draughtsman, 1881, Pattern Maker, 1883-86; Third Assistant Engineer, Steamer Alabama, 1882; Foreman Pattern Maker, Union Iron Works, San Francisco, 1886-1901, 1906.

JAMES BENNETT LIGGETT, Instructor in Foundry Practice.

Apprentice and Foundry Moulder, Falls Rivet and Machine Co., Cuyahoga Falls (Ohio), 1883-88, Webster, Camp & Lane, Akron (Ohio), 1888-93, Bowler & Co., Cleveland (Ohio), 1893-98, Cleveland Steel Casting Co., 1898-99; Foreman, Born Steel Range Co., Cleveland (Ohio), 1899-1902, Westinghouse Electric Co., Cleveland (Ohio), 1902.

CHLOE LESLEY STARKS, Instructor in Graphic Arts.

THERON J. PALMATEER, Instructor in Machine Shop Practice.

Apprentice with Sibley & Ware, South Bend (Ind.); Journeyman Machinist, 1896-1905, with R. Hoe & Co., New York, Columbus Machine Works, Columbus, O., Elems Engineering Works, Chicago, Western Gas Engine Works, Mishawaka, Ind., Webster Iron Works, Bakersfield, Cal., R. S. Hunkins, San Jose, Cal.

LAWRENCE EDMINSTER CUTTER, Instructor in Mechanical Engineering.

A. B., Leland Stanford Jr. University, 1906.

CHARLES NORMAN CROSS, Instructor in Mechanical Engineering.

M. E., Cornell University, 1906. Assistant Engineer, Long Island State Hospital, Brooklyn (N. Y.), 1905; Dynamo and Switchboard Attendant with the New York Edison Co., New York City, 1905-06; Electrician with the Lackawanna Steel Co., Buffalo (N. Y.), 1906.

WILLIAM HENRY SLOAN, Instructor in Chemistry.

A. B., Leland Stanford Jr. University, 1903, A. M., 1904. Student, University of Leipzig, 1904-05; Assistant Chemist, San Francisco Board of Health, 1905-06.

*Beginning September, 1910.

BRUNO BOEZINGER, Instructor in German.

A. B., Fort Worth University, 1894, A. M., 1895. Instructor in German, North Texas Normal School, 1895-98; Principal, German Department, San Antonio (Texas) H. S., 1899-1906; Instructor in German, Summer School, University of Texas, 1896.

THERESA PEET RUSSELL, Instructor in English.

Ph. B., State University of Iowa, 1895. Teacher in Denison Normal School, 1895-96; Principal Vilisca High School, 1896-98; Graduate Student at Radcliffe College, 1898-99; Teacher in Anamosa High School, 1899-1900.

HERMANN HILMER, Instructor in German.

A. B., University of Michigan, 1904; A. M., Columbia University, 1905. Assistant in German, University of Wisconsin, 1905-06; Student, University of Leipzig, 1906-07.

EDWARD WILLIAM HOPE, Instructor in Greek.

A. B., University of Pennsylvania, 1898; A. M., Leland Stanford Jr. University, 1903; Ph. D., Johns Hopkins University, 1905. Student, Philadelphia Divinity School and Union Theological Seminary, 1897-1900; Instructor in the Classics, St. George's School, Newport (R. I.), 1900-01; Student, Universities of Berlin and Munich, 1901-02; Acting Adjunct Professor of Greek, University of Alabama, 1905-06; Instructor in Classics, University of Illinois, 1906-07.

JOHN HARRISON FOSS, Instructor in Civil Engineering.

A. B., Leland Stanford Jr. University, 1903. Assistant Engineer, Hamakua Ditch, Huelo, Maui (Hawaiian Islands), 1903-04, Engineer, 1904-05; Engineer, Maui Agricultural Co., Paia, Maui, 1905-07.

ROBERT HENRY HARCOURT, Instructor in Forge Practice.

Blacksmith with Risdon Iron Works, San Francisco, 1898-1901, 1903-04; with Hammond Car and Elevator Company, San Francisco, 1901-02, 1904-05; with National Iron Works, San Francisco, 1902-03; with Abner Doble Steel Company, San Francisco, 1905-06, Foreman of Forge Shop, 1906-07.

JESSE DWIGHT SUTER, Instructor in Applied Mathematics.

A. B., University of Wisconsin, 1904, A. M., 1905.

JOHN KESTER BONNELL, Instructor in English.

A. B., Leland Stanford Jr. University, 1903; A. M., Harvard University, 1908. San Francisco Harvard Club Scholar at Harvard University, 1903-04.

*WILLIAM GEORGE BATEMAN, Instructor in Chemistry.

A. B., Leland Stanford Jr. University, 1907, A. M., 1909.

PERCY ALVIN MARTIN, Instructor in European History.

A. B., Leland Stanford Jr. University, 1902, A. M., 1903; A. M., Harvard University, 1907. Student, University of Paris, 1903-04, Universities of Berlin and Leipzig, 1907-08; Fellow, Harvard University, 1908; Professor of History and French, Whittier College, 1904-05.

FRANK OAKES ELLENWOOD, Instructor in Mechanical Engineering.

A. B., Leland Stanford Jr. University, 1904. With Construction Department of C. C. Moore & Co., San Francisco, 1904; Machine Shop, Tonopah Railroad Co., Tonopah (Nev.), 1905; Draughtsman, American Smelting and Refining Co., South San Francisco, 1906.

SEDLEY LYNCH WARE, Instructor in History.

B. A., Oxford University, 1895; LL. B., Columbia University, 1900; Ph. D., Johns Hopkins University, 1908. Teacher in Porter Military Academy, Charleston (S. C.), 1903-04; Fellow in History, Johns Hopkins University, 1907-08.

*Resigned December, 1909.

CHARLES MOSER, Instructor in Civil Engineering.

C. E., Ohio Northern University, 1902; A. B., Leland Stanford Jr. University, 1908.

ALMON EDWARD ROTH, Student Adviser.

A. B., Leland Stanford Junior University, 1909.

GEORGE DE FOREST BARNETT, Instructor in Chemistry.

A. B., Leland Stanford Jr. University, 1906, A. M., 1909.

FLORENCE BOLTON, Instructor in Hygiene.

A. B., Leland Stanford Jr. University, 1907.

HENRY WILFRED MALONEY, Instructor in Physical Training.

Graduate, Army Gymnastic School, Curragh, Ireland, 1899. Sergeant-Instructor in Gymnastics and Fencing, British Army, 1899-1903; Conductor of Private Gymnasium, Pasadena (Cal.), 1904-08.

ROBERT LONG DAUGHERTY, Instructor in Mechanical Engineering.

A. B., Leland Stanford Jr. University, 1909.

PHILIP ARNOLD KNOWLTON, Instructor in Latin.

A. B., University of Wisconsin, 1906, A. M., 1908. Graduate Scholar in Greek, University of Wisconsin, 1906-07, in Philosophy, 1907-08; Teacher of Latin and English, Chico (Cal.) H. S., 1908-09.

*EVERETT WALLACE SMITH, Instructor in English.

A. B., Leland Stanford Junior University, 1899.

*PERLEY ASON ROSS, Instructor in Physics.

A. B., Leland Stanford Junior University, 1908.

*GEORGE FRANCIS McEWEN, Instructor in Applied Mathematics.

A. B., Leland Stanford Junior University, 1908.

ERNEST GEORGE ATKIN, Acting Instructor in Romanic Languages.

A. B., Cornell University, 1904. Student, Cornell University, 1904-05; Instructor in French and German, Centenary Collegiate Institute, 1905-06; Cornell University Traveling Fellow in Romanic Languages, 1906-07.

†VERA TOWNSEND, Acting Instructor in Hygiene.

A. B., Leland Stanford Jr. University, 1901.

FRED FINLEY FITZGERALD, Acting Instructor in Chemistry.

A. B., Leland Stanford Jr. University, 1905.

IRA BROWN CROSS, Acting Instructor in Economics.

A. B., University of Wisconsin, 1905, A. M., 1906; Ph. D., Leland Stanford Jr. University, 1909. University Scholar in Economics, University of Wisconsin, 1905-06; Special Agent for Wisconsin Tax Commission, 1904-06; Special Agent for U. S. Immigration Commission, 1908-09.

JAMES IRA WILSON McMURPHY, Acting Instructor in Systematic Botany.

A. B., Leland Stanford Jr. University, 1908, A. M., 1909.

ROBERT EDOUARD PELLISSIER, Acting Instructor in Romanic Languages.

S. B., Harvard University, 1904, A. M., 1909. Instructor in French, Williston Seminary, 1904-08.

*Beginning September, 1910.

†Absent on leave, second semester, 1909-10.

LECTURERS

LUTHER BURBANK, Lecturer on Plant Evolution.

MORRIS ELMER DAILEY, Lecturer in Education.

A. M., Indiana University, 1897; LL. D., Drake University, 1901. Superintendent of City Schools, Fresno (Cal.), 1897-99; Vice-President and Teacher of History, San Jose State Normal School, 1899-1900, President since 1900.

JOHN SLATER PARTRIDGE, Lecturer in Law.

A. B., University of California, 1892, A. M., 1894. Instructor in Latin, Lowell High School, San Francisco, 1893-97; Assistant City Attorney, San Francisco, 1904-05.

ASSISTANTS

([1] First Semester; [2] Second Semester.)

Greek

ERNEST JOHN CUMMINGS.

A. B., Occidental College, 1906.

Latin

ESTHER JEAN SPENCER.

A. B., Leland Stanford Jr. University, 1907, A. M., 1909.

Romanic Languages

[2]LUCILE EUGENIA AMES, Spanish.

SOPHIE BOEZINGER.

Graduate State Normal, Neuchâtel, Switzerland, 1875.

English

ITALIA EVANS FLAUS.

A. B., Leland Stanford Jr. University, 1909.

ALICE WINDSOR KIMBALL.

A. B., Leland Stanford Jr. University, 1904.

EDITH R. MIRRIELEES.

A. B., Leland Stanford Jr. University, 1907.

[2]LILLIE MAY RIBLE.

A. B., Leland Stanford Jr. University, 1910.

Philosophy

JOHN MADISON FLETCHER.

A. B., Vanderbilt University, 1901; A. M., University of Colorado, 1904. Assistant in Education, University of Colorado, 1905-06.

Psychology

PAUL R. RADOSAVLJEVICH.

Ph. D., University of Zürich, 1905, New York University, 1908.

Education

EDWARD SAMUEL EVENDEN.

FRANCES ELIZABETH SHORT.
A. B., Leland Stanford Jr. University, 1902.

History

LETITIA MACELIA CLARK.
A. B., Leland Stanford Jr. University, 1908.

HARVEY EMMONDS DORR.
B. L., University of the Pacific, 1905; A. B., Leland Stanford Jr. University, 1906, A. M., 1909.

WILLIAM EDWARD DUNN.
A. B., University of Texas, 1909.

ELSA WINIFRED FELL.

[1]LILLIS M. HEMPHILL.

STELLA McALLISTER.
A. B., Leland Stanford Jr. University, 1909.

ETHEL CLARA PETERS.
A. B., University of Kansas, 1904.

Economics

YAMATO ICHIHASHI.
A. B., Leland Stanford Jr. University, 1907, A. M., 1908.

FRANK M. RUSSELL.

Graphic Arts

HARRIET PARK.

Mathematics

MARY VIRGINIA STUART.

Applied Mathematics

[2]HARRY CARLETON BURBRIDGE.
A. B., Leland Stanford Jr. University, 1908.

LESLIE MARION EDWARDS.

EDWARD JORDAN.
B. S., University of Sydney, 1901.

GEORGE FRANCIS McEWEN.
A. B., Leland Stanford Jr. University, 1908.

[2]ARTHUR E. SMOTHERS.
A. B., Northwestern University, 1906.

ARTHUR FAY TAGGART.
A. B., Leland Stanford Jr. University, 1909.

[2]ROY NEILL WOOSTER.

Physics

ALBERT EDWARD CASWELL.
A. B., Leland Stanford Jr. University, 1908.

HARRY PUTMAN CRAMER.

SHIRLEY HYATT.
A. B., Leland Stanford Jr. University, 1906, A. M., 1908.

GEORGE FRANCIS McEWEN.
A. B., Leland Stanford Jr. University, 1908.

PERLEY ASON ROSS.
A. B., Leland Stanford Jr. University, 1908.

Chemistry

GEORGE SHAMBAUGH BOHART.

THOMAS MEREDITH CRAMER.

ELMER R. EWELL.

THORNTON MILLS HOPLER.
B. S., Rutgers College, 1908.

ELOISE JAMESON.

[2]RALPH EDWARD SANBORN.

HARRY JOHNSON SEARS.

ERNEST HENRY STABER.

ELMER RUPEL WEAVER.

Botany

SAMUEL HASH SHERFY.
A. B., Leland Stanford Jr. University, 1909.

Systematic Botany

JOSEPHINE LOUISE DOWS RANDALL.
A. B., Leland Stanford Jr. University, 1909.

JESSIE PERKINS ROSE.
A. B., Leland Stanford Jr. University, 1909.

Physiology and Histology

JOHN FLOYD PRUETT.
A. B., Leland Stanford Jr. University, 1909.

ETHEL MADELAINE WATTERS.
A. B., Leland Stanford Jr. University, 1909.

FRANK WALTER WEYMOUTH.
A. B., Leland Stanford Jr. University, 1909.

Anatomy

FRANCIS STOLLE.

Hygiene and Physical Training

LESLIE EUGENE BAILEY.

ELEANOR STOW BANCROFT.
M. D., University of California, 1896.

[2]LOTTITA M. CORELLA.

JAMES PORTER CRAWFORD.

EDNA GRAYCE DAVIS.
A. B., Leland Stanford Jr. University, 1909.

FRANK HOWARD HILTON.

[2]ROBERT HAROLD JESSON.

EUGENE GARRISON McCANN.

ARCHIBALD FORBES MESTON.

JOSEPHINE LOUISE DOWS RANDALL.
A. B., Leland Stanford Junior University, 1909.

WILLIAM RAMSAY DOWS RANDALL.
A. B., Leland Stanford Jr. University, 1906.

JOHN HENRY WIGGINS.

THOMAS MARION WILLIAMS, Medical Adviser.
A. B., Leland Stanford Jr. University, 1897; M. D., Columbia University, 1901.

Zoology

WILLIS HORTON RICH.
B. S., Lombard College, 1905; A. B., Leland Stanford Jr. University, 1909.

CHARLES HOWARD RICHARDSON, Jr.

Entomology and Bionomics

[2]WILLIAM MARK DAVIDSON.
A. B., Leland Stanford Jr. University, 1910.

[2]MOSES MILLER FOGEL.

WILLIAM M. MANN.

[1]EVERETT WINDER RUST.
A. B., Leland Stanford Jr. University, 1908.

WILLIAM F. THOMPSON.

Geology and Mining

SADIE KEEN, Clerk.

ARTHUR FAY TAGGART.
A. B., Leland Stanford Jr. University, 1909.

Mechanical Engineering

HERBERT EARNEST FUQUA.
A. B., Leland Stanford Jr. University, 1909.

MYRTIL COLE HAVENS, Assistant Mechanician.

WILLIAM CLEMENS HORN.

JAMES BARBOUR MOORHEAD, Mechanician Shop.

CARL JOSEPH MORONEY.

EDWIN ALLAN ROGERS.
A. B., Leland Stanford Jr. University, 1910.

WILLIAM CHRISTIAN THEILE.
A. B., Leland Stanford Jr. University, 1909.

WALTER UHLMAN, Engineer.

HERBERT CLIFTON WARREN.

Civil Engineering

[2]CLARENCE EARL BLEE.

JOHN ELBERT ELLIOTT.

[1]HERMAN ENDRES.

[1]VALENTINE RICHARD GARFIAS.
A. B., Leland Stanford Jr. University, 1907.

RALPH LEON HUGHES.

JOSEPH ADOLF KILLIAN.

ROBERT ELMER MILLSAP.

[2]HOMER J. SHARP.

SIDNEY BURTON SHAW.

NELSON TAYLOR.

[2]BURCHELL WILLIAMS UPSON.

[2]ROMNEY LEIGH VAUGHN.

Electrical Engineering

[1]SANFORD BALLARD DOLE.
A. B., Leland Stanford Jr. University, 1910.

President's Office

EVERETT MORSE CALDERWOOD.

A. RUTH FIELD.

JOHN PARKS HEMPHILL, Acting Secretary to President.
A. B., Leland Stanford Jr. University, 1909.

MAY VIOLA SWIFT.
A. B., Leland Stanford Jr. University, 1909.

FREDERICK BERTRAM WOOD.

Registrar's Office

†SUSAN BROWN BRISTOL, Appointment Secretary.
A. B., Leland Stanford Jr. University, 1897.

HARRIET BROWN COOLIDGE, Acting Appointment Secretary.
A. B., Leland Stanford Jr. University, 1902.

FRED DAN POST, Stenographer.

MARGARET A. POST.

UNIVERSITY LIBRARY

Staff

JOHN EDWARD GOODWIN, Assistant Librarian.
A. B., University of Wisconsin, 1901; B. L. S., New York State Library School, 1905. Classifier and Cataloguer, Madison (Wis.) Free Library, 1901-04; Assistant, Legislative Reference Department, Wisconsin Free Library Commission, 1903.

SYDNEY BANCROFT MITCHELL, Head of Order Department.
A. B., McGill University, 1901, A. M., 1904. Student, New York State Library School, 1903-04; McGill University Library, 1901-03, 1905-08.

HELEN BINNINGER SUTLIFF, Chief Cataloguer.
A. B., University of Kansas, 1890. Head Cataloguer, University of Kansas Library, 1891-1905; Cataloguer in Columbia University Library, Summer, 1901.

ALICE NEWMAN HAYS, Classifier.
A. B., Leland Stanford Jr. University, 1896; B. L. S., New York State Library School, 1903. Assistant, Home Education Department, New York State Library, 1901.

HELEN LATHROP, Reference Librarian.
A. B., Leland Stanford Jr. University, 1902. Student, New York State Library School, 1905-06; Assistant, Children's Department, Carnegie Library of Pittsburg, 1906-07.

EDITH MARGARET COULTER, Supervisor Serial Department.
A. B., Leland Stanford Jr. University, 1905; B. L. S., New York State Library School, 1907.

Assistants

WINNIFRED HENRIETTA BIGLEY, Cataloguer.
A. B., University of California, 1903.

HOMER WARD CAMPBELL.

MAY FRANKLIN, Cataloguer.
A. B., Leland Stanford Jr. University, 1907.

†Absent on leave, 1909-10.

ELIZABETH HADDEN, Cataloguer.

ANNA GERTRUDE HALL.
A. B., Leland Stanford Jr. University, 1906.

ERNEST JEROME HOPKINS.

FRANCES SOPHIA COURTENAY JAMES.
A. B., University of Wisconsin, 1904, A. M., 1905. Graduate Student, University of Wisconsin, 1905-07; Cataloguer, Wisconsin Historical Library, 1901-07, University of Washington, 1907-08.

MAJORIE HADLEY LITTLE.
A. B., Leland Stanford Jr. University, 1908.

LOUISE MARCUS.

BLANCHE JULIA MOBLEY.

CHARLES V. PARK.
A. B., Leland Stanford Jr. University, 1909.

WILLIAM STRATTON PORTER, Jr.

CORNELIA DOUGLAS PROVINES.

MAIDA ROSSITER.
A. B., Cornell University, 1903.

SYLVIA DELLA STINSON.

STERLING JOHN TALBOT.

JAMES SCOTT TOPHAM.

HANNAH LILLIAN TODD.

MARY JEANNETTE WOODRUFF, Stenographer.

MEMORIAL CHURCH

GODFREY CARL BUEHRER, Organist.
A. M., Rensselaer College (Indiana), 1896; Mus. Doc. Hon., Santa Clara College, 1907. Student Scola Cantorum, Paris, 1904-06; Instructor of Band, Orchestra, and Choir, Rensselaer College, 1892-96; Instructor, St. Joseph's College, San Jose, 1897-98; Organist, St. Joseph's Church, San Jose, 1899-1908; Professor of Music, Santa Clara College, 1901-05.

LELAND STANFORD JUNIOR MUSEUM

HARRY C. PETERSON, Curator.
Charter Member American Museum Association.

ROBLE HALL

SHIRLEY HYATT, Matron.
A. B., Leland Stanford Jr. University, 1906, A. M., 1908.

ORGANIZATION

Foundation

The Leland Stanford Junior University was established under an Act of the Legislature, approved March 9, 1885, entitled "An Act to advance learning, the arts and sciences, and to promote the public welfare by providing for the conveyance, holding, and protection of property, and the creation of trusts for the founding, endowment, erection, and maintenance within this State of universities, colleges, schools, seminaries of learning, mechanical institutes, museums, and galleries of art." The Founding Grant, executed November 11, 1885, was made public at a meeting of the Board of Trustees, held in San Francisco, November 14, 1885. The cornerstone of the inner quadrangle was laid May 14, 1887, and the institution opened to students October 1, 1891.

Nature, Object, and Purposes of the University

"We, Leland Stanford and Jane Lathrop Stanford, husband and wife, grantors, desiring to promote the public welfare by founding, endowing, and having maintained upon our estate known as the Palo Alto Farm, and situated in the Counties of San Mateo and Santa Clara, State of California, United States of America, a university for both sexes, with the colleges, schools, seminaries of learning, mechanical institutes, museums, galleries of art, and all other things necessary and appropriate to a university of high degree, to that end, and for that purpose, do hereby grant," etc.

"And that the trust hereby created may be executed according to the wishes of the grantors and each of them, they do hereby designate the Nature, Object, and Purposes of the Institution hereby founded, to be:

"Its nature, that of a University, with such seminaries of learning as shall make it of the highest grade, including mechanical institutes, museums, galleries of art, laboratories, and conservatories, together with all things necessary for the study of agriculture in all its branches, and for mechanical training, and the studies and exercises directed to the cultivation and enlargement of the mind;

"Its object, to qualify students for personal success and direct usefulness in life;

"And its purposes, to promote the public welfare by exercising an influence in behalf of humanity and civilization, teaching the blessings of liberty regulated by law, and inculcating love and reverence for the

great principles of government as derived from the inalienable rights of man to life, liberty, and the pursuit of happiness."

Name of the University

"Since the idea of establishing an institution of this kind, for the benefit of mankind, came directly and largely from our son and only child, Leland, and in the belief that had he been spared to advise as to the disposition of our estate, he would have desired the devotion of a large portion thereof to this purpose, we will that for all time to come the institution hereby founded shall bear his name, and shall be known as The Leland Stanford Junior University."

Management and Control of the University

The general management and control of the institution is vested in a Board of Trustees originally numbering twenty-four, and chosen for life. By the Amending Act of May 31, 1899, the number of trustees is reduced to fifteen, with future elections for a term of ten years. The Board of Trustees fills all vacancies.

Powers and Duties of the Trustees

"The Trustees shall have power and it shall be their duty:

"To appoint a President of the University, who shall not be one of their number, and to remove him at will.

"To fix the salaries of the President, Professors, and Teachers, and to fix them at such rates as will secure to the University the services of men of the very highest attainments.

"To establish and maintain at such University an educational system which will, if followed, fit the graduate for some useful pursuit, and to this end to cause the pupils, as early as may be, to declare the particular calling which in life they may desire to pursue. . . .

"To prohibit sectarian instruction, but to have taught in the University the immortality of the soul, the existence of an all-wise and benevolent Creator, and that obedience to His laws is the highest duty of man.

"To have taught in the University the right and advantages of association and coöperation.

"To afford equal facilities and give equal advantages in the University to both sexes.

"To maintain on the Palo Alto estate a farm for instruction in agriculture in all its branches.

Powers and Duties of the President

"It shall be the duty of the Trustees to give to the President of the University the following powers:

"To prescribe the duties of the professors and teachers; to remove professors and teachers at will; to prescribe and enforce the course of study and the mode and manner of teaching; such other powers as will enable him to control the educational part of the University to such an extent that he may justly be held responsible for the course of study therein and for the good conduct and capacity of the professors and teachers."

Annual Report of the Trustees

"The Board of Trustees shall annually report all their proceedings to the person who for the time being shall fill the office of Governor of the State of California, and shall accompany such report with a full account of their financial operations for the preceding year, and with a statement of the financial affairs of the institution."

Amendments to the Founding Grant

A clause in the Founding Grant reserved to the grantors the right to alter, amend, or modify the terms and conditions of the grant in important particulars. Under this provision amendments were made by Mrs. Stanford, June 1, 1897; May 31, 1899; March 28, 1902; October 3, 1902; June 1, 1903. These amendments were concerned mainly with matters of detail, but provided also "that the number of women attending the University as students shall at no time ever exceed five hundred."

An Amendment to the Constitution of the State of California, adopted November 6, 1900, "permitted, approved, and confirmed all the trusts, estates, terms, and conditions" of the Founding Grant and of all the deeds, conveyances, and other instruments made and delivered before that date, and authorized the Legislature, under certain conditions, to exempt the property of the University from taxation.

The University Faculty

"The Trustees shall constitute the President and professors the faculty of the University, and shall prescribe their powers and duties as such."

Under the Articles of Organization, adopted by the Board of Trustees March 31, 1904, the power and authority of the University Faculty is vested in the Academic Council, consisting of the President of the University, the professors and associate professors, the librarian, the registrar, such assistant professors as have been upon the roll of the faculty for three years, whether as assistant professors or instructors, and such other officers of the University or members of the teaching

staff as the Academic Council may, with the assent of the Board of Trustees, determine.

All general University regulations, statutes, and rules as to matters within the province of the faculty, must be initiated in and passed by the Academic Council. The Academic Council has general power and responsibility for the internal administration of the University, subject to express provisions contained in the Articles of Organization respecting the methods of exercising such powers through the President of the University, the Advisory Board, the Standing Committees, and the Department Faculties.

The Advisory Board consists of nine members of the rank of professor, one from each of the five department groups, and four chosen without reference to groups. All executive acts of general importance, such as recommendations for appointments, promotions, and dismissals, for the creation of new departments or chairs, etc., must be submitted by the President to the Advisory Board. The Advisory Board is also privileged to make such recommendations to the President, regarding policy, as it may decide by vote to be expedient, but no recommendations for appointments, promotions, or dismissals, may originate with the Advisory Board.

The Executive Committee of the Academic Council consists of the President, Vice-President, Registrar, and two members from each department group elected by the Academic Council. The Executive Committee appoints the Academic Committees of the Council and formulates the duties and controls the policy of Administrative and Academic Committees.

The Standing Administrative Committees of the Council are appointed by the President subject to the approval of the Advisory Board.

The Department Faculties consist of the professors, associate professors, assistant professors, and instructors in the several departments, but only members of the Academic Council have the right to vote. A Department Faculty has direction of the work of instruction in the department and of the internal administration of the department, subject only to such control as is vested in the Board of Trustees, the President of the University, or the Academic Council. The Executive Head of the Department Faculty is designated by the President with the approval of the Advisory Board and of the Board of Trustees.

Departments

The work of the University embraces the following departments, divided into groups for the purpose of elections to the Advisory Board and Executive Committee, as indicated:

(I) Greek, Latin, Germanic Languages, Romanic Languages, English Literature and Rhetoric, English Philology; (II) Botany, Systematic Botany and Forestry, Physiology and Histology, Hygiene, Zoology, Entomology and Bionomics, Geology and Mining; (III) Psychology, Mathematics, Physics, Chemistry; (IV) Philosophy, Education, History, Economics and Social Science, Law; (V) Graphic Arts, Applied Mathematics, Civil Engineering, Mechanical Engineering, Electrical Engineering.

A Department of Medicine was established in 1908.

The Marine Biological Laboratory, founded by the liberality of Mr. Timothy Hopkins, and located at Pacific Grove, on the Bay of Monterey, is a branch of the biological work of the University.

Location

The University is located on the "Palo Alto Farm" in the Santa Clara Valley, thirty miles southeast of San Francisco, on the Coast Division of the Southern Pacific Railway. The grounds of the University consist of over seven thousand acres, partly level and partly rising into the foothills of the Santa Cruz Range. The Bay of San Francisco lies about three miles east of the University grounds. Across the bay the Monte Diablo Range rises to a height of over four thousand feet, the Lick Observatory crowning Mt. Hamilton, the highest of the range.

The Santa Clara Valley is one of the most attractive portions of the State in climate, in natural beauty, and in the adaptiveness of its soil to all the varied products of California. In winter the mercury rarely falls below 30 degrees, with an average midday temperature of about 55 degrees. In summer the midday temperature ranges between 60 degrees and 80 degrees, with occasional higher and lower numbers, the average being about 70 degrees; the nights are cool, the usual range being from 50 degrees to 58 degrees. The rainfall, normally about fifteen inches, is chiefly confined to the months from December to April, inclusive.

Buildings

The central group of buildings, constituting two quadrangles, the one surrounding the other, is an adaptation of the Mission Architecture, and reproduces on an imposing scale the open arches, long colonnades, and red tile roofing of the old Spanish Missions of California. The Inner Quadrangle consists of twelve one-story buildings and the Memorial Church, connected by a continuous open arcade, and surrounding a court 586 feet long by 246 feet wide, or three and a

quarter acres. The buildings are of buff sandstone, somewhat varied in color, the stonework of broken ashlar, with rough rock-face, and the roofs covered with red tile.

The fourteen buildings of the Outer Quadrangle are constructed of the same material and in the same general style as the Inner Quadrangle. They are also connected on the outer side by open arcades extending entirely around the quadrangle. The extreme length of the Outer Quadrangle is 894 feet.

The Leland Stanford Junior Museum is situated a quarter of a mile from the Quadrangles, on the west side of the Palo Alto Avenue, and contains the archæological and art collections of the University.

The Chemistry Building is located between the Quadrangles and the Museum. It consists of two separate structures—the main Chemistry Building and the Assaying Laboratory.

Behind the central quadrangles are located the workshops of the engineering departments, experimental laboratories, power-houses, etc.

The dormitories are east and west of the Quadrangles. Encina Hall, for men, is at the east, and has accommodations for three hundred students. Roble Hall, for women, is at the west, and will accommodate one hundred students. Madroño Hall, a frame building, at present leased to private parties, receives only women students. It will accommodate about thirty students.

Encina Gymnasium and Roble Gymnasium are frame buildings, equipped with the necessary apparatus and appliances for physical training.

The University Inn is a frame building intended primarily as a University commons for students living on the campus.

The grounds immediately about the University have been reserved in part for experimental and ornamental purposes, in part as residence sites for members of the Faculty and others who may desire to live on the University campus.

Buildings of the Medical Department

The buildings of Cooper Medical College, transferred to the University in 1908, occupy four fifty-vara lots, in San Francisco, bounded by Clay, Webster, and Sacramento streets, and consist of Cooper College, containing laboratories, lecture and clinic rooms, and Lane Hall; Lane Hospital, a modern building in brick and stone with a capacity of one hundred and fifty beds; and the Nurses' Home.

ADMISSION TO THE UNIVERSITY

[For special regulations governing admission of women, see p. 58.]

I. UNDERGRADUATE STANDING

Candidates must be at least sixteen years of age. They must present satisfactory recommendations as to personal character, and, if from other colleges or universities, must bring letters of honorable dismissal.

Entrance Subjects

The standard of preparation is the four years' high school course. The proper co-ordination of high school subjects for the individual pupil is regarded as primarily a problem for the secondary school; the University is prepared to recognize for entrance credit any subject having an established place in the secondary school curriculum, in which adequate instruction is given and which is pursued to satisfactory results.

No prescription, other than English, is made. Candidates desiring to study mathematics must obviously offer such elementary mathematics as is not taught in the University, and engineering students are expected to offer also solid geometry and trigonometry. Candidates desiring to study Latin should offer at least two entrance units in that subject. The State law governing the practice of medicine in California prescribes, among other requirements, that the preparatory course of every person practicing medicine or surgery in the State shall have included two years of Latin, two years of mathematics, two years of English, one year of history, two years of laboratory science, and six years of further credits in language, literature, history, or science.

An *Entrance Unit* represents a subject pursued in the high school for one year, with not less than one hundred and fifty recitation periods of forty-five minutes each, two laboratory periods being counted as the equivalent of one recitation period.

Entrance on Recommendation

Undergraduate standing, without further tests, will be granted as follows:

1. To graduates of approved preparatory schools who have completed a regular four years' course, amounting to not less than *fifteen* entrance units, and who are fully recommended to the University.

Full recommendation implies a recommending grade considerably higher than the lowest passing grade, with provision that low passing

grades in a particular subject or subjects may be offset by a general high average or by decided intellectual promise. Where subjects have been completed with private tutors, or under other than regular school conditions, the candidate will not be entitled to full recommendation. Where the course of study includes the newer subjects, in which high school standards are not fixed, the quantity and quality of work must be specially evidenced; in music, the candidate will be expected to pass the examinations of the College Entrance Examination Board or similar university examinations.

It is the purpose of the University to emphasize (1) quality of preparation and intellectual promise; (2) personal character and seriousness of purpose. Principals are expected to exact a high standard of scholarship as preliminary to recommendation, and to withhold recommendation from those who are undesirable or unpromising from the point of view of moral qualities or habits.

Approved Preparatory Schools are schools maintaining full four years' courses of high school work and accredited (1) by (*a*) The New England College Entrance Certificate Board, (*b*) The North Central Association of Colleges and Secondary Schools, (*c*) colleges and universities of recognized standing, or (2) upon inspection undertaken or authorized by the University.

The university records of first-year students will be considered as additional evidence of the standing of preparatory schools and of their good faith and success in meeting the requirements of the University, and such evidence will be made use of in determining as to the continuance of accrediting relations.

2. To recommended graduates of California State Normal Schools, and to graduates of other Normal Schools approved by the California State Board of Education as of equal rank with California State Normal Schools, who are holders of the highest grade diploma issued by these Normal Schools. (For conditions on which advanced standing may be granted Normal School graduates, see p. 58.)

3. To holders of seventy-two-count Diplomas issued by the Regents of the State of New York, granted *with credit*, *with great credit*, or *with highest credit*.

4. To candidates from China, Japan, Mexico, and other foreign countries who present credentials showing the satisfactory completion of courses of study equivalent to those of approved American high schools. In Japan such courses of study must extend at least two years beyond graduation from a middle school; in Mexico, graduation from the National Preparatory School or from other preparatory

schools maintaining six years' courses, will be required. Before admission to the University such candidates must show ability to use, and to understand readily, both written and spoken English; if coming directly from these countries they must ordinarily expect to spend at least one year in an American preparatory school, or under special instruction in English, before being able to meet this test.

Recommendations will be considered at any time of the year, but, since, in general, candidates cannot be assured of admission to the University without examination in one or more subjects, it is important that credentials be forwarded as early as possible.

Blanks for admission on recommendation may be obtained from the Registrar.

Entrance on Examination

Undergraduate standing will be granted to candidates who present on examination (or partly on examination and partly on recommendation) *fifteen* entrance units.

The College Entrance Examination Board

In 1910, the entrance examinations of the College Entrance Examination Board will be held June 20-25, at Stanford University and many other places.

All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y., and must be made upon a blank form to be obtained from the Secretary of the Board upon application.

Applications for examination at points in the United States east of the Mississippi River, also at Minneapolis, St. Louis, and other points on the Mississippi River, must be received by the Secretary of the Board at least two weeks in advance of the examinations, that is, on or before Monday, June 6, 1910; applications for examination elsewhere in the United States or in Canada must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 30, 1910; and applications for examination outside of the United States and Canada must be received at least five weeks in advance of the examinations, that is, on or before Monday, May 16, 1910.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon the payment of $5 in addition to the usual fee.

The examination fee is $5 for all candidates examined at points in the United States and Canada and $15 for all candidates examined

outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

A list of the places at which examinations are to held by the Board is published about March 1 each year. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

In these examinations the University will accept a mark of 60 as the lowest passing grade.

A Definition of Requirements in the various subjects in which examinations are held is given in Document No. 44, issued by the Board. (Price, 10 cents: address the Secretary, Post Office Sub-Station 84, New York, N. Y.)

Entrance Examinations by the University

Entrance examinations, in the subjects listed below, are set by the University in August-September, at the beginning of the academic year. Candidates are admitted to these examinations on presenting evidence of systematic preparation in the subjects concerned. Applications should be made to the Registrar, by whom permits will be issued. Special examinations outside of the regular examination days will not ordinarily be granted. In exceptional cases such examinations may be arranged by the Committee on Admission; but a special fee of two dollars will be charged the candidate for each subject in which examination is taken.

Entrance Examination Schedule, August, 1910

	August 25	*August 26*	*August 27*	*August 29*
8:15	El. Algebra	Physiology El. French	Physics El. Spanish	Zoology El. Latin
10:15	Adv. Algebra Amer. Hist.	Chemistry Inter. French	Int. Spanish El. German	Biology Adv. Latin
1:30	Pl. Geometry Botany	El. Engl. Lit. Adv. French	English Comp. Int. German	M. & M. Hist. El. Greek
3:30	Solid Geom. Trig. (4:45)	Hygiene English Hist.	Adv. Eng. (*2b, c*) Adv. German	Ancient Hist. Adv. Greek

Examinations passed at other universities of equivalent rank may also be offered for entrance credit.

Specimen examination questions may be obtained on application to the Registrar.

Definition of Requirements

Examinations held by the University are based on the following definition of requirements in the various subjects. Credit on examination will be given as indicated by the unit values attached, except that one entrance unit will be allowed for one year of preparatory work in a second foreign language, where the first has covered two or more years' work.

1. English Composition.—The work in English Composition should be given at least two recitations a week throughout the entire high school course. The greater part of this time should be devoted to practice in writing, but it is recommended that some attention be also paid to instruction in the fundamental principles of formal rhetoric.

The examination is to test the candidate's ability to write exercises not only free from marked deficiences in spelling, punctuation, sentence structure, and paragraphing, but also indicative of his ability to think consecutively on a simple subject. The subjects which are set at the time of the examination will be drawn for the most part from the candidate's own experiences. (1½ units)

Note.—All first-year undergraduates (including special students and students coming from other institutions with less than twenty units of advanced credit) will be required to satisfy the University standard in English Composition. This may be done by passing either (1) the regular examination in Entrance Subject 1, or (2) a special Matriculation Test given during matriculation week. Since the latter test is the exact equivalent of the Entrance Examination, recommended students who find it convenient to take the earlier examination are encouraged to do so.

A student who passes either of the above tests may be exempted from Composition work in the University, or may enter Course 2 (*a* or *b*) at his option. A student who does not pass will be required to register in English A, unless on account of the merits of his paper, the Department assign him to English 2. A student having entrance deficiencies in Composition to make up is required to register in the assigned course at once (unless, by reason of numbers, or by special arrangement, the Department assigns some students to a later semester) and to remain in it until his work is of passing grade.

2. English Literature.—The work in English Literature should be given an average of at least three recitations a week throughout the

four years of the preparatory course. It should be so conducted as to give the student not only an appreciative understanding of the books selected either for general or for more intensive study, but also a knowledge of their place in the history of English Literature, and especially an ability to read aloud intelligently both prose and verse.

The list of books is that named by the College Entrance Examination Board for use during the years 1909-11.

2a. Elementary English Literature.—Group I (two to be selected):—Shakspere's As You Like It, Henry V, Julius Cæsar, The Merchant of Venice, Twelfth Night.

Group II (one to be selected):—Bacon's Essays; Bunyan's The Pilgrim's Progress, Part I; The Sir Roger de Coverley Papers in the Spectator; Franklin's Autobiography.

Group III (one to be selected):—Chaucer's Prologue; Spenser's Faerie Queene (selections); Pope's The Rape of the Lock; Goldsmith's The Deserted Village; Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns.

Group IV (two to be selected):—Goldsmith's The Vicar of Wakefield; Scott's Ivanhoe; Scott's Quentin Durward; Hawthorne's House of the Seven Gables; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; Dickens' Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone.

Group V (two to be selected):—Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc and The English Mail Coach; Carlyle's Heroes and Hero Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies.

Group VI (two to be selected):—Coleridge's The Ancient Mariner; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley; Macaulay's Lays of Ancient Rome; Poe's Poems; Lowell's The Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's The Courtship of Miles Standish; Tennyson's Gareth and Lynette, Launcelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Evelyn Hope, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, The Boy and the Angel, One Word More, Hervé Riel, Pheidippides.

(1 unit)

2b. Advanced English Literature.—The books for detailed study should be chosen from the following list as indicated. Preparation

should include not only an examination of the significant details in the text, but also a study of the work in its larger outlines—its literary structure, style, and adaptation to its purpose.

(1) Shakspere's Macbeth; (2) Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; (3) Burke's Speech on Conciliation with America, *or* Washington's Farewell Address and Webster's First Bunker Hill Oration; (4) Macaulay's Life of Johnson, *or* Carlyle's Essay on Burns. (1 unit)

2c. History of English Literature.—Candidates who offer 2*b* may, at their option, offer 2*c* in addition. The examination in both subjects will be given in the same period. Preparation should consist in a brief outline of the history of English Literature with a view to making clear the character and the tendencies of the more important literary epochs and associating the chief books and authors in their proper periods. (½ unit)

3-6. Mathematics.—The definition of requirements, except in advanced algebra, part II, is that adopted by the College Entrance Examination Board, and is in accordance with recommendations made in 1903 by a committee of the American Mathematical Society.

3a. Elementary Algebra.—The four fundamental operations for rational algebraic expressions.

Factoring, determination of highest common factor and lowest common multiple by factoring. Fractions; including complex fractions, ratio and proportion. Linear equations, both numerical and literal, containing one or more unknown quantities. Problems depending on linear equations. Radicals, including the extraction of the square root of polynomials and of numbers. Exponents, including the fractional and negative. Quadratic equations, both numerical and literal. Simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations.

Problems depending on quadratic equations. The binomial theorem for positive integral exponents. The formulas for the nth term and the sum of the terms of arithmetical and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected. (1 to 1½ units)

3b. Advanced Algebra I.—Permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descarte's rule of signs and Horner's method, but not Sturm's functions or multiple roots. (½ unit)

3c. Advanced Algebra II.—An additional unit or half unit may be given in Advanced Algebra for a suitable amount of work upon a connected group of the topics usually included under the heading of advanced or higher algebra, such as, the binomial theorem and convergence of series, determinants, the theory of equations, etc.

(½ to 1 unit)

4. Plane Geometry.—The usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle. The solution of numerous original exercises, including locus problems. Applications to the mensuration of lines and plane areas. (1 unit)

5. Solid Geometry.—The usual theorems and constructions of good text-books, including the relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle. The solution of numerous original exercises, including locus problems. Application to the mensuration of surfaces and solids. (½ unit)

6. Trigonometry.—Definitions and relations of the six trigonometric functions as ratios; circular measurement of angles. Proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas. Solution of trigonometric equations of a simple character. Theory and use of logarithms (without the introduction of work involving infinite series). The solution of right and oblique triangles, and practical applications. (½ unit)

7. Physics.—The equivalent of one year's work in the high school, including both laboratory and text-book work. It is preferred that at least one-half the time be given to laboratory work in which the students perform individually such experiments as are described in the

better class of laboratory manuals. Accurate notes of the laboratory work should be kept. The text-book study should cover the ground of some modern text.

The desired preparation, both in laboratory and text-book work, is fairly represented by Sanford's Elements of Physics. (1 unit)

8. Chemistry.—Besides the usual text-book and recitation work, each student must have a laboratory course in which he performs the experiments for himself. Accurate notes of the laboratory work should be kept. The necessary amount of laboratory work cannot be obtained in less than four hours per week for one school year, in addition to the classroom work. It is preferred that the laboratory work be entirely devoted to illustration of the important facts and principles of general chemistry, rather than partly to analytical chemistry. (1 unit)

Students who receive entrance credit on recommendation, and who wish to continue the study of chemistry in the University, will be admitted at once to course *a* II, and will be required to begin course 1.

9. Physiology.—The elements of human physiology and hygiene, the equivalent of Martin's Human Body. The text-book work should be accompanied by experiment, dissection of animals and organs, and a certain amount of study of the tissues with the microscope.

Candidates who have taken only the work in elementary physiology and hygiene done in the grammar or intermediate grades are not prepared to offer the subject for entrance credit. The elementary physiology and hygiene of the grammar grades in this regard is in the same category as are the other subjects studied in the grammar grades, such as arithmetic and geography, which are assumed as preliminary to the subjects offered for entrance. (1 unit)

10. Botany.—The requirements outlined by the College Entrance Examination Board (based on the report of the Committee on Botany of the Science Department of the National Educational Association, modified by a committee of the Society for Plant Morphology and Physiology) may be taken to represent approximately what is expected of the candidate for entrance credit in Botany. These requirements call for a full year's work, of which it is expected that at least two-thirds shall be genuine laboratory work. One-half of the year is to be devoted to the general principles of morphology, physiology, and ecology. In this work proper account should be taken of the lower plants as well as of the flowering plants. The second half-year is devoted to a study of the natural history of representatives of the larger groups of plants, and the principles of classification. This study is expected to include representatives of the algæ, fungi, mosses, ferns,

and the principal types of flowering plants. If it seems desirable, the order of the two half-years' work may be reversed or combined in a different way. (Stevens's Introduction to Botany may be mentioned as indicating the scope of the work.)

In preparing to meet the requirements in Botany, the main thing to bear in mind is that the work shall be of a practical nature; that the study be mainly specimens and not books. A study of the growth and development of the forms selected is of the highest importance, and should be made a prominent feature in the work.

If possible, the student should be allowed the use of a compound microscope; but when this is not practicable, microscopic demonstrations by the instructor are indispensable. The laboratory work of the students may be supplemented by such explanatory and text-book work as may be deemed necessary; but this must be understood to supplement and not to replace the laboratory work.

Notes and drawings should be neatly made in blank books of moderate size. The paper for the drawings should be white, unruled, hard, smooth, but not glazed. A hard pencil should be used in drawing, and accuracy and neatness are both to be emphasized. The descriptive notes should not be written upon the same sheets as the drawings, and should be clear and concise, including only what the student has himself seen. Notes taken from lectures or reading should be kept entirely apart from the student's own observations.

No credit will be given for an herbarium. The time necessary to prepare an herbarium may be better devoted to a study of the living plants. (1 unit)

11. Zoology.—The candidate should possess a knowledge of the structure and relationships of a series of animals, gained primarily through the study of living forms and the dissection of specimens in the laboratory. At least four hours per week for one school year should be spent in actual laboratory work, which should include a study of the following forms, or their equivalent: amœba, paramœcium, hydra, starfish, sea-urchin, earthworm, crayfish, grasshopper, clam, slug, squid, dogfish, pigeon, rabbit. Laboratory note-books, certified by the instructor, should be submitted as evidence of the nature of the work, and should contain a full series of drawings and notes based on original dissections made by the student.

The practical work indicated above should be supplemented by such lectures or reading as will furnish a comprehensive knowledge of the groups studied. As a general reference book Parker & Haswell's Text-book of Zoology (Macmillan & Co., 1897) is recommended. (1 unit)

12. Biology.—A course of study and laboratory work extending through one school year, the time divided equally between two of the following subjects: Physiology, Botany, Zoology. The character of the work is indicated under the respective statements of subjects 9, 10, and 11. (1 unit)

13. Hygiene.—The requirements in Hygiene are based on adequate instruction in personal hygiene, the hygiene of occupation, and the relation of the citizen to the State in matters of sanitation and public health. The course should give the student a basis for intelligently meeting his individual problems of health in any environment, rational habits of regular exercise, practical knowledge of general hygiene and sanitation, and familiarity with the real dangers of transmissible diseases and the methods of controlling them.

Six laboratory periods per week of physical training and experimental work on the hygiene of the individual and the home, and two recitations per week on Public Health throughout the year, constitute the minimum requirements in this subject. A list of approved reference books will be furnished by the Department of Hygiene upon application.

The following distribution of the work over several years of the high school course is suggested:

First Year.—(*a*) One physical training period three times per week; (*b*) one demonstration or field trip per week in the systematic study of personal hygiene.

Second Year.—(*a*) One physical training period three times per week; (*b*) one inspection trip per week in a prescribed study of the hygienic conditions of the various occupations.

Third Year.—(*a*) Gymnasium work and athletics optional; (*b*) two recitations per week on the principles of public health: this should consist of text-book work and carefully planned laboratory and field demonstrations. The class as a whole should construct a sanitary map of the community. (1 unit)

14-17. History.—Candidates for credit in entrance History must submit evidence of considerable work done in addition to the text-book preparation. For the sake of the training involved, as well as for the information acquired and the stimulating of interest, the following exercises are recommended: Supplementary reading, including the use of original material where possible, notes and digests of reading; abstracts or analyses of specified chapters, both of the text-book and supplementary reading; outlines of subjects, gathering material from all available sources; map drawing from printed data or comparison of

existing maps, showing movements of exploration, migration or conquest, territorial changes, or social phenomena.

Such work should be regarded as a means rather than the end of historical study, and in every instance should be adapted in character and amount to the stage of advancement of the class and of the individual pupil. As the pupil progresses in his study, more advanced work may well be required in the form of historical composition, and of note-taking in the class from talks by the teacher or reports of fellow pupils.

The evidence of such work may be presented in the form of a note-book or bound collection of notes, containing all exercises prepared upon any of the four history subjects arranged in order of their assignment and certified and approved by the teacher. In the case of schools whose recommendations are accepted in place of the examinations, a detailed statement as to the character, amount, and quality of the work of each candidate may be submitted in place of the note-book itself.

14. *Ancient History.*—Text-books: *The Oriental Nations*—Myers, General History, pp. 1-86; or West, Ancient History, pp. 1-75; or an equivalent. *Greece*—Botsford, History of Greece; or Myers, History of Greece; or Morey, Outlines of Greek History; or Oman, History of Greece; or West, Ancient History; or the equivalent. *Rome*—Botsford, History of Rome; or Myers, Rome; or West, Ancient History; or Morey, Outlines of Roman History; or an equivalent.

For supplementary reading and reference: Botsford, Story of Rome; Munro, Source Book of Roman History; "Epochs of Ancient History" Series; Wolfson, Essentials in Ancient History; Cox, General History of Greece (Student Series); Pelham, Outlines of Roman History; Abbott, Roman Political Institutions; Shuckburgh, History of Rome; Ginn & Co.'s Classical Atlas, or Kiepert, Classical Atlas; Tozer's Primer of Classical Geography. See, also, Historical Sources in Schools, and A History Syllabus for Secondary Schools. (1 unit)

15. *Mediæval and Modern History.*—Text-books: Myers, Mediæval and Modern History; or Robinson, History of Western Europe; or, Harding, Essentials in Mediæval and Modern History; or the equivalent.

For supplementary reading and reference: Robinson, Readings in European History; West, Modern History; Duruy, History of the Middle Ages; Adams, Civilization During the Middle Ages; Bemont and Monod, Mediæval Europe; Munro and Sellery, Mediæval Civilization; Fyffe, History of Modern Europe (Popular Edition); Seignobos, Political History of Europe since 1814; the "Epochs" Series; Univer-

sity of Pennsylvania, Translations and Reprints; Fling, Studies in European History; Putzger, Historischer-Schul-Atlas. See, also, Historical Sources in Schools. (1 unit)

16. *History of England.*—Text-books: Andrews, History of England; or Coman and Kendall, History of England; or Cheyney, A Short History of England; or Gardiner, Student's History of England; or Ransome, Advanced History of England; or Larned, History of England; or Oman, History of England; or Walker, Essentials in English History; or Wrong, History of the British Nation; or Terry, History of England; or an equivalent.

For supplementary reading and reference: Bright, History of England; "Epochs" Series; Green, Short History of the English People; Traill, Social England; Larned, History for Ready Reference; Porritt, The Englishman at Home; Adams and Stephens, Select Documents of English Constitutional History; Colby, Sources of English History; English History Illustrated from Original Sources; Kendall, Source Book of English History; Translations and Reprints; and Gardiner, School Atlas of English History. Desirable references are to be found in Andrews, Cheyney, Coman and Kendall, Larned, and Wrong. See, also, Historical Sources in Schools; A History Syllabus for Secondary Schools; and Reference Books recommended by the University of Wisconsin. (1 unit)

17. *American History.*—Text-books: McLaughlin, History of the American Nation; or Channing, Students' History of the United States; and Ashley, American Government; or Hinsdale, American Government; or Clark, Outlines of Civics, and Bryce, American Commonwealth (abridged edition); or equivalents.

For supplementary reading and reference: "Epochs of American History" series; the "American History" Series; Hart, American History Told by Contemporaries; MacDonald, Select Charters, Select Documents, and Select Statutes; and McCoun, Historical Geography of the United States. See, also, Historical Sources in Schools. (1 unit)

18-19. Spanish and French.—The requirements in Spanish and French are the equivalent of those recommended by the Committee on College Entrance Requirements of the National Educational Association.

The elementary study of the languages, covering two years of daily recitations, should lay stress on the following points:

1. An accurate knowledge of the forms of the languages, including the inflections, conjugations, and principal parts of verbs. Particular

attention should be devoted to this part of the subject; constant drill in the verbal inflections, both written and oral, and dictation exercises of various kinds, are recommended. 2. The elements of syntax, such as the uses of the article, the personal pronouns, the subjunctive, the partitive constructions, and the agreement of the participles. 3. The ability to turn easy English prose into French or Spanish. 4. The ability to translate ordinary French or Spanish into idiomatic English. 5. The ability to pronounce French and Spanish correctly. It is believed that a fairly good pronunciation can be obtained in the fitting schools, if the necessary time is devoted to the subject. Pronunciation should be studied both theoretically and practically, and the characteristics of vowel qualities, of stress, pitch, and intonation should be pointed out.

The Intermediate requirements are intended to represent a third year of daily recitations. The specific demands are:

1. A thorough knowledge of modern French and Spanish syntax. 2. The ability to turn ordinary modern French and Spanish at sight into idiomatic English. 3. The ability to translate connected English prose of moderate difficulty into French or Spanish. 4. The ability to write French or Spanish from dictation.

The Advanced requirements in French will occupy the fourth year of daily recitations. At the end of this course the student should be able: (1) To read at sight any standard author not earlier than the seventeenth century; (2) to write in French a short essay on some simple subject connected with the works read; (3) to translate correctly a passage of modern English prose; (4) to carry on a simple conversation in French; (5) to follow a lecture in French.

For all grades the examination will include a test of pronunciation and the writing of French or Spanish from dictation.

The reading in the Elementary course should cover from four hundred to six hundred duodecimo pages; for the Intermediate requirements a similar amount should be read of prose and verse, a portion to be in the dramatic form; and for the Advanced requirements the same quantity of prose and verse should be selected from standard authors not earlier than the seventeenth century, and these should be read with reference to their literary value.

The practice of writing compositions consisting in reproductions or paraphrases of the matter read should be begun in the Intermediate course and followed by short themes along similar lines in the Advanced course.

No definite text-books are prescribed, but the books named below will be found adequate for the mastery of these requirements.

18a. Elementary Spanish.—Hills and Ford's Spanish Grammar (Heath & Co.), or Garner's Spanish Grammar (American Book Co.); Ramsey's Elementary Spanish Reader (Holt & Co.); Matzke's First Spanish Readings (Heath & Co.); Tamayo y Baus, Un Drama Nuevo (Jenkins, New York); Valdés, Jose (Heath & Co.); Alarcón El Capitán Veneno (Heath & Co.). (2 units)

18b. Intermediate Spanish.—Umphrey, Spanish Prose Composition (American Book Co.), or Ramsey's Elementary Spanish Text-book (Holt & Co.); Ramos y Vital, Zaragueta (Silver, Burdett & Co.); Caballero, La Familia de Alvareda (Holt & Co.); Alarcón, El Niño de la Bola (American Book Co.); Moratín, El Sí de las Niñas (Ginn & Co.); Echegaray, El Gran Galeoto (Koehler, Boston). (1 unit)

19a. Elementary French.—Fraser & Squair's French Grammar and Reader, Part I (Heath & Co.), or Whitney's Practical French Grammar, Part I (Holt & Co.), or Grandgent's Essentials of French Grammar (Heath & Co.), or Chardenal's Complete French Course (Allyn & Bacon), or François' Beginners' French (American Book Co.); Super's French Reader (Heath & Co.), or Aldrich & Foster's French Reader (Ginn & Co.), or François and Giroud's Simple French (Holt & Co.); Dumas, La Tulipe Noire; Halévy, L'Abbé Constantin; Labiche, Le Voyage de Monsieur Perrichon; Mérimée, Colomba. For the study of pronunciation, Matzke's Primer of French Pronunciation (Holt & Co.) is recommended. (2 units)

19b. Intermediate French.—Fraser & Squair's French Grammar and Reader, Part II (Heath & Co.), or Whitney's Practical French Grammar, Part II (Holt & Co.), or Edgren's Compendious French Grammar (Heath & Co.), or François' Advanced French Composition (American Book Co.); George Sand, La Petite Fadette; Balzac, Eugénie Grandet; Victor Hugo, Hernani (Heath & Co.); Fontaines, Historiettes Modernes (Heath & Co.). (1 unit)

19c. Advanced French.—Selected plays of Corneille, Racine, or Molière; La Fontaine, Fables. Selections from the writings of Rousseau or Voltaire; Lamartine, Grogiella; Hugo, Ruy Blas; Rostand, Cyrano de Bergerac; Renan, Souvenirs d'enfance et de jeunesse; selected works of Balzac, Maupassant, Daudet, and Anatole France; Modern French Lyrics. (1 unit)

20. German.—The requirements in German are essentially those recommended to the National Educational Association by its Committee on College Entrance Requirements, but more emphasis is put upon the acquisition of power as distinguished from learning.

20a. Elementary German.—The ability to read understandingly easy German prose and verse at sight; an accurate knowledge of the most important elements of grammar, embracing especially inflections, word-order, and the essentials of syntax, as also the ability to appreciate the force of prefixes and suffixes; the ability to express in correct German simple ideas concerning familiar things; the ability to make oral use of the German learned and to recognize German words and simple sentences when spoken. Careful attention should be given to pronunciation and accentuation, in order to insure the power to read German fluently and intelligently.

This preparation is represented, approximately, *in reading,* by material of the character of Thomas and Hervey's Reader, and the careful study of one or more modern dramas (about two hundred duodecimo pages of easy German), supplemented by the reading of German lyrics and ballads, a number of which should be memorized; *in composition,* by daily practice in reproducing in one form or another the German read and in writing in German. (2 units)

20b. Intermediate German.—The ability to read intelligently ordinary German prose and verse at sight; some knowledge of word-formation and derivation; practical familiarity with the principles of syntax, with special reference to the uses of the tenses and cases, the modal auxiliaries, and the moods; increased ability to write and speak German.

It is believed that this preparation can be acquired by continued practice such as is suggested above, in connection with the careful reading of five hundred duodecimo pages of contemporary and classical prose and verse, in addition to the reading required for Elementary German. It is recommended that about one-half of this reading be selected from the works of living or recent writers, such as Otto Ernst, Storm, Keller, Freytag, etc.; and the other half from such classics as Lessing's Minna von Barnhelm, Schiller's Wilhelm Tell, and Goethe's Wahrheit und Dichtung. Particular attention should be paid to the literary value of the works read. It is also desirable that candidates should acquire the ability to understand and take part in a recitation conducted in German. (1 unit)

20c. Advanced German.—A fourth unit in German may be given to candidates who fulfil, in addition to the preparation required in Elementary and Intermediate German, the following requirements: A firmer hold on the important elements of German Grammar; a thorough knowledge of at least two of the following classics: Goethe's Hermann und Dorothea or his Iphigenia, Lessing's Nathan der Weise, and Schiller's Wallenstein, as well as of two or more recent dramas,

all of which should be studied as much as possible with an eye to the appreciation of their literary value; some familiarity with the technical language of literature and science; the ability to compose in German with ease and to follow lectures delivered in German. (1 unit)

21. Latin.—

Latin Reading.—The reading required in elementary and advanced Latin, without regard to the prescription of particular authors and works, is not less *in amount* than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Virgil, Aeneid, I-VI.

An equivalent amount of reading from authors other than these specified above may be substituted. The following are suggested: Terence, Phormio; Caesar, Civil War; Nepos; Cicero, Letters; Sallust; Virgil, Bucolics and Georgics; Ovid, Metamorphoses.

Translation at Sight.—Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

Prescribed Reading.—Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Virgil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

Grammar and Composition.—The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

Suggestions Concerning Preparation.—Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so,

gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

A written examination cannot test the ear or tongue, but proper instruction in any language will necessarily include the training of both. The school work in Latin, therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be practiced.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

(Four units, distributed as follows: Elementary and Caesar, 2 units; Cicero, ½ unit; Virgil, ½ unit; third-year Composition, ½ unit; fourth-year Composition, ½ unit.)

22. Greek.—

22a. Elementary Greek.—Grammar, the inflections, the formation of words, and the essential points of syntax; Xenophon's Anabasis, Books I-IV, or an equivalent; prose Composition (Collar and Daniell's textbook is recommended); translation at sight of easy prose. It is expected of every student that he be able to read Greek aloud without stumbling. (2 units)

22b. Advanced Greek.—Homer, Iliad, Books I-III, or an equivalent; advanced prose composition. The candidate must show a thorough acquaintance with the forms and syntax of Homer, and must be able to scan any given passage exactly and to read it rhythmically. In the writing of Greek the candidate should have a year's training beyond that required in Elementary Greek. (1 unit)

23. Freehand Drawing.—The requirements assume instruction for 240 hours of 60 minutes each, arranged to extend through a period

of a year. Approximately two-thirds of this time should be given to representation and pictorial composition and one-third to decorative and constructive design.

A. Representation.—Object drawing, boxes, books, bowls, vegetables, machine parts, drawn in various positions with attention to perspective facts in line and also to light and shade.

Plant forms, seed pods, shells, insects, animals, and simple landscape, drawn in line, in light and shade, and in color.

The style of drawing should be direct, facile and effective, adapted to the thing drawn, with refinement in its proper place and vigor in its proper place. The candidate should be equally familiar with the use of pencil and charcoal or brush.

Composition, exercises in arrangement and adaptation of pictorial subjects into good composition, using both rhythmic line arrangement and harmonious color.

B. Design.—(1) Exercises in space filling, borders and all-over patterns with use of geometric and organic forms. (2) Principles of constructive and decorative design applied to simple objects, as: in printing, a title page or program; in textiles, a stencil or embroidery design for a curtain or table scarf; in wood, working drawings for a chair, table, clock-case, book rack, etc.; in metal, cabinet hardware and lighting fixtures, etc. Talks supplemented by photographs of the best paintings and architecture, and talks upon taste in home furnishing and appointments, with visits to worthy examples should supplement the course, with a view to developing an enlightened taste in art.

Candidates for credit must show drawings and note-books. The examination will consist of two parts, one in representation, one in the execution of a problem in applied design. The candidate is expected to provide himself with the materials—paper, pencil, charcoal, brushes, and color—which he will use in the examination.

24. Mechanical Drawing.—Full unit credit equivalent to about two hundred and fifty hours of work under instruction.

The candidate is expected to have acquired neatness and accuracy in the use of drawing instruments. His course should have included practice in line work, lettering, machine or architectural working drawings, and tracing; recognition, commensurate with the length of course and the degree of proficiency attained in the use of instruments, will be given, however, to those courses consisting of line work, lettering, and the construction of geometric figures. He should present for inspection as much of his work as is possible, duly certified by his teachers. As an examination the candidate may be called upon to make a

simple drawing of some specified object; he should provide his own material for the examination, as follows: T-square, triangle, instruments, pencils, eraser, scale, thumbtacks, and sheet of drawing paper not smaller than 12 x 18 inches. (½ or 1 unit)

25-28. Shopwork.—Two things will be expected of candidates for entrance credit in these subjects; first, manual dexterity, as evidenced by neatness, accuracy, and dispatch in the execution of a given piece of work; second, a knowledge of the materials and tools used, and a thorough understanding of the principles involved in the operations.

Candidates who have been trained in manual training schools or in commercial shops should present letters from their teachers or employers stating clearly and in some detail the time they have been employed, the kind of work they have done, and its quality. The examination may be oral, written, the actual execution of a set piece of work, or all combined. In each subject the ability to read and follow a working drawing is expected.

25. *Woodworking.*—The ability to recognize the common varieties of wood and some knowledge of their physical properties, such as ease of working, strength, toughness, hardness, etc., is expected. Candidates must be familiar with the uses of the principal hand tools of carpentry and with their care. They should be able to make the ordinary kinds of joints and splices. They should be familiar with the operation of the lathe, jig-, band-, and circular-saws, and planing machines.

Equivalent to about two hundred hours of work under instruction in a manual training school, or a year in a commercial shop. (½ unit)

26. *Forge Work.*—This demands an elementary knowledge of the properties of wrought iron and steel, and of the proper heats at which to work them. The management of forge and fire and the nature and uses of all the ordinary blacksmithing tools should be known. The candidate must be able to execute all of the common forging processes, including the various forms of welds in iron and steel; he is also expected to understand hardening, tempering, and annealing

Equivalent to about two hundred hours of work under instruction in a manual training school, or a year in a commercial shop. (½ unit)

27. *Foundry Work.*—The candidate should have a knowledge of the tools and processes used in the ordinary forms of green sand moulding and core work. He should be familiar with the cupola and know how to charge and operate it. He must have a knowledge of the properties of cast iron, and should have had experience in pouring cast iron as

Equivalent to about two hundred hours under instruction in a manual training school, or a year in a commercial foundry. (½ unit)

28. *Machine Shop.*—A knowledge of the tools and processes used in the working of iron, steel, and brass is demanded of the candidate. He should be able to execute all forms of vise-work, such as chipping, filing, scraping, fitting, and finishing. He must be familiar, through experience in operation, with the simpler forms of machine tools, such as the lathe, drilling machine, planer, shaper, and milling machine.

For one-half unit credit: About two hundred hours under instruction, or one year in a commercial shop.

For one unit credit: About four hundred hours under instruction, or two years in a commercial shop. (½ to 1 unit)

II. SPECIAL STUDENTS

Persons under twenty-one years of age will not be received as special students.

The privileges extended to special students are not intended for those who come directly from the schools, with insufficient preparation for regular standing, but for those who are qualified by age, character, practical experience, and habits of study to profit by university courses. (On account of the limitation upon the number of women students, women are not admitted as special students.)

Persons under twenty-five years of age, not graduates of some approved high school or equivalent preparatory school, will be admitted only upon passing entrance examinations in subjects aggregating at least five units. The candidate may usually select the subjects in which examinations shall be taken, but engineering students must include elementary algebra and plane geometry.

Special students are subject to the same University regulations as regular undergraduates, and they may become candidates for graduation upon fulfilling all University requirements (see p. 63).

Blank applications for admission as special students may be obtained from the Registrar.

III. ADVANCED STANDING

Students from other institutions of recognized collegiate rank, who present letters of honorable dismissal, may be admitted to such standing and upon such terms as the Faculty may deem equitable. Students from institutions of equivalent rank, who maintain a satisfactory record after admission, may expect to receive the same standing as at the former institution, except that no such student can be given more

than three years' advanced credit (ninety unit-hours toward graduation), and that differences in standard of entrance preparation will be taken account of. Every candidate is required to present, along with a catalogue of the institution in which he has studied, a full statement, duly certified, of the studies he has completed, including studies passed or credited at entrance.

Recommended graduates of approved State Normal Schools where the normal training has been preceded by a full four years' high school course, or where high school and normal school course together cover six years' work, may be granted an advanced credit of not more than thirty units.

Blank applications for admission to advanced standing may be obtained from the Registrar.

All applications for advanced standing on the basis of work done before entering the University must be filed within two years after matriculation; and such applications will not be received at a later date.

IV. GRADUATE STANDING

Graduates of institutions of recognized collegiate rank may be admitted to graduate standing in the University upon presentation of diplomas or equivalent credentials. Admission to technical graduate standing does not imply admission to candidacy for an advanced degree (for the conditions of such candidacy see p. 71). If graduates of other universities desire to become candidates for the baccalaureate degree, the question of units required for graduation may be waived, upon approval of the Committee on Admission and Advanced Standing, and the degree conferred on the satisfactory completion of not less than thirty units of University work and the fulfillment of all major and minor requirements. Graduate students not candidates for any degree, may be permitted, upon the approval of the major department, to undertake such work as their previous training seems to warrant.

Special Regulations Governing Admission of Women

The Founding Grant of the University, as amended May 31, 1899, directs "that the number of women attending the University as students shall at no time ever exceed five hundred." In conforming to this provision the following plan of admission has been adopted:

Graduates of other universities and candidates who have completed at least two full years in a college or university of recognized standing, will be admitted without previous application, provided they present

themselves for matriculation upon the regular registration days. Women once admitted to the University will be allowed to continue without further application, so long as scholarship and conduct are satisfactory, and provided they present themselves for registration on the regularly appointed days. Places will not be held for women after the regular registration days, except by permission of the Committee on Registration granted in advance.

For the remaining number of women students permitted by the Founding Grant (for September, 1910, approximately 135) the plan of admission is as follows:

Applications may be made at any time. They must state the proposed time of entrance and the credentials which the candidate expects to offer. To insure consideration, applications made more than ten months before the proposed date of matriculation must be renewed (by written notice or new application) some time during the ten months immediately preceding the proposed date of matriculation. Blanks for application may be obtained of the Registrar.

Numbered lists will be begun July 10th (for the August-September matriculation), and October 10th (for the January matriculation). All candidates whose credentials are complete and in the hands of the Registrar on the dates specified will be given numbered admission cards in the order of original application. After the first lists are made up, additional numbered cards will be issued in the order in which complete credentials are received, the order of original application applying where the complete credentials of more than one candidate are received on the same date.

On registration day candidates will be preferred in their serial order. After registration day the serial order of candidates actually present will be observed.

Candidates receiving numbered cards for a given date, but not matriculating at that time, may be transferred to any succeeding list, in their serial order, by giving due notice to the Registrar (before October 10th, or July 10th, as the case may be).

UNIVERSITY RESIDENCE

Registration

On the appointed Registration Days, in August and January, each student must obtain a certificate of registration *in person*, at the Registrar's office.

Matriculated students may register after the appointed Registration Days and during registration week, upon payment of a special fee of two dollars; during the week following the fee for late registration will be four dollars; after that the fee will be increased one dollar for each week's delay. Registration of undergraduates and specials will not be permitted later than one month after the beginning of instruction.

Study Card

At the Registrar's office the student receives a card for selection of studies for the semester. This card, properly filled out, and approved by the major department, must be filed with the Registrar not later than the Friday following Registration Day; but late study cards will be accepted upon payment of a special fee of two dollars. Students registering after the Friday of registration week, must have their study cards indorsed by all the instructors under whom work is taken. All work for which University credit is desired must be duly registered.

Enrollment in Classes

A student desiring to enter any class must present his certificate of registration to the instructor for enrollment at the beginning of each semester. Whether the student is qualified for enrollment in any particular class is a question to be decided by the instructor in charge. In general, the prerequisites for taking any given course are noted under "Courses of Instruction."

Change of Studies

A student desiring to drop a subject once taken up, or to take up a new subject after the study card has been filed, must present to the Committee on Registration a petition for such change, approved by the major department and by the instructors whose subjects are to be taken or dropped. In general, petitions so approved, if they do not give the student too many unit-hours, or too few unit-hours, and if presented within one month after the beginning of the semester, are granted without question. If presented at a later time in the semester

they will be granted only for extraordinary reasons, and, where the taking up of new subjects is involved, only on payment of a special fee of two dollars for each course; if otherwise acceptable but presented after the close of the semester, they will be granted only on payment of a special fee of four dollars for each course. In the case of petitions to drop subjects during the last six weeks of the semester, action will be deferred until the close of the semester.

Change of Major Subject

Petitions to change the major subject will be granted when approved by the departments in charge of both the old and the new subjects, the student being held to all the requirements of the new major subject. (First-year students may change their major subject at the end of the first or second semester without petition.) In general, the major subject may be changed at the end of the first year, and in some cases later, without appreciable loss of time to the student.

Amount of Work

Fifteen hours per week of recitations or lectures or an equivalent in laboratory work, constitutes an average semester's work. In general, students may register for as few as *thirteen* or as many as *eighteen* unit-hours; but in the case of students doing outside work for self-support or otherwise, and where considerations of health are involved, special restrictions will be made upon recommendation of the professor of hygiene; and where conditions or failures have been incurred in the preceding semester, not more than *fifteen* units may be registered unless by special permission of the Committee on Registration granted in advance. Permission to register for less than *thirteen* units may also be granted for special reasons; but registration for less than *ten* units will not ordinarily be accepted. Not more than eighteen units may be credited toward graduation for any semester's work, unless, in exceptional cases, permission to register for additional units is granted in advance. Graduate students are not held to any special number of unit-hours, but registration will not ordinarily be permitted unless such students are prepared to devote at least half of their working time to University study. Petitions for irregular registration should be presented at the beginning of the semester.

Every unit for which credit is given is understood to represent approximately, for the average student, three hours of actual work per week, through one semester. Thus, in lecture or recitation work, for one unit of credit one hour per week may be allotted to the lecture or recitation and two hours for preparation or subsequent reading and

study on the part of the student; but if a less amount of time is allotted for preparation or subsequent reading or study, there shall be a proportionate decrease in the amount of credit. Where the time is wholly occupied with drawing, field, or laboratory work, or in the class-room work of conversation classes, three full hours per week through one semester are expected of the student for each unit of credit; but where such work is supplemented by systematic outside reading or experiment under the direction of the instructor, such a reduction may be made in the actual drawing, field, laboratory, or class-room time as seems just to the department concerned.

Conditions and Failures

A student conditioned in any subject may arrange with the instructor concerned for such supplementary examinations or study as will make good the deficiency; but such deficiency must be removed within one year after the condition is incurred, otherwise the condition will be considered a failure. Work reported as incomplete may be made up during the first or second semester's registration after the incomplete is incurred; but if not made up until the second semester, the incomplete work shall be duly entered on the student's study card and shall count as part of the permitted registration for that semester to the extent of the actual unit-hours required for making up such incomplete work as estimated by the instructors concerned. A student failing in any subject cannot receive credit for the portion in which the failure is incurred until the subject has been re-registered and taken over again in class. A condition or failure or withdrawal from class without permission of the Committee on Registration, limits the student to *fifteen* units the semester following.

Mid-semester reports on scholarship are obtained from all instructors, and students reported as doing unsatisfactory work are notified of their deficiencies. A student whose work is unsatisfactory may be placed on probation at any time. At the middle and at the end of the semester each department shall be notified of all serious deficiencies in scholarship affecting students whose major work is in that department.

A student who receives passing grades in less than half the work for which he is registered during his first semester, or in less than two-thirds during any subsequent semester, shall be deemed to have failed in his studies. After a first failure, unless unusually serious, a student may, with the approval of the major department, again register in the University, but shall be placed on probation for one semester.

A second failure shall result in withdrawal from the University. Work marked "incomplete" will be considered of passing grade only when reported as satisfactory in quality and not seriously deficient in quantity.

A student whose delinquency is unusually serious, or is the result of persistent neglect, may be required to withdraw from the University at any time.

Leave of absence will not generally be granted to a student on probation, nor to any student whose work during the current semester is unsatisfactory, unless applied for at least six weeks before the end of the semester.

A student on probation may not take part in any intercollegiate contest, nor represent the University in any way, whether individually or in connection with any athletic, literary, musical, dramatic, or other organization.

From Special to Regular Standing

Special students may be entered in regular standing and become candidates for graduation, on passing examinations in the required number of entrance subjects, provided such examinations are passed not later than two years after matriculation. In place of entrance examinations, university work to the amount of five units for each entrance deficiency may be offered in university subjects which are also included in the entrance group.

A special student who has completed one hundred and fifty units of university work, including all major requirements, and whose general university record is deemed proof of superior scholarship, may become a candidate for graduation on approval of the Committee on Admission and Advanced Standing. Petitions to this end will not be considered by the Committee until after the student has completed one hundred and twenty units of university work.

University Credit for Extra Entrance Subjects

Credit toward graduation may be given for entrance subjects in excess of the number required for admission, provided such extra entrance subjects are also university subjects, and are successfully continued in the University within two years after matriculation, and provided the student's general University record is deemed proof of superior scholarship. In general, three units of advanced credit will be granted for each extra entrance unit representing elementary work in a given subject, and five units of advanced credit for each extra entrance unit representing advanced work. Application for such university credit must be made within two years after matriculation.

After matriculation additional entrance units may be offered only for the purpose of making up entrance deficiencies.

University Credit for Special Courses

University credit is given only for work done in residence at the University. Work prescribed by any professor of such a nature that it cannot be done at the University or can be more advantageously done elsewhere may be regarded as work done in residence. But such special work must be duly registered in advance; or, if not registered in advance but approved later, may be credited only upon payment of a special fee of two dollars for each course.

Matriculated students on leave of absence may take work in other universities, usually without any restrictions other than those imposed by the university in question. But work undertaken in any Summer Session may be subject to special regulations, and must be approved in advance by the major department and by the department in which the work is to be taken; or, if not registered in advance but approved later, may be credited only upon payment of a special fee of two dollars. The last semester's work of every candidate for a degree must be taken in this University.

Advanced Standing

Advanced standing for work done before matriculation will generally be given only when certified as having been completed in some institution of recognized collegiate rank, except as provided above for extra entrance units, or, in particular cases, to recommended graduates of approved State Normal Schools (see p. 58). But in special cases permission may be given by the Faculty to receive credit on examination for work equivalent to regular University courses. Application for such examinations, with satisfactory evidence of the work accomplished, must be presented to the Committee on Advanced Standing. Applications for advanced standing on the basis of work done before entering the University must be made within two years after matriculation.

Leave of Absence

A student desiring to leave the University for a brief time should apply to the Committee on Registration. If leave of absence is desired on account of sickness, the petition must be indorsed by the professor of hygiene. A leave of absence is merely a justification of the absence and not a relief from the work that has been missed. A leave of absence is usually necessary only in case of interrupted work; a

student in good standing absent one or more semesters may re-enter at the beginning of any semester without formal petition.

Honorable Dismissal

An honorable dismissal means that the student is permitted voluntarily to withdraw from the University and is commended to the favorable consideration of any institution he may wish to enter. An honorable dismissal may be granted upon written application to any student not under discipline for misconduct.

Conduct of Students

In the government of the University the largest liberty consistent with good work and good order is allowed. Students are expected to show both within and without the University such respect for order, morality, personal honor, and the rights of others as is demanded of good citizens. Failure to do this will be sufficient cause for removal from the University.

In 1908 the Board of Trustees of the University provided that in all future rentals or leases of houses as fraternity chapter houses it shall be expressly stipulated that no intoxicating liquors of whatever kind shall ever be sold or used on the premises. The Trustees also by formal resolution requested the Academic Council to prohibit the use of liquor in fraternity chapter houses, student club houses, and other student lodgings.

This action of the Board of Trustees is in harmony with the instructions given by the Academic Council to its Committee on Student Affairs, and defines the policy of the University. Prohibition of the use of liquor extends to all student lodgings whether on the campus or elsewhere. The University assumes that the act of registering as a student implies full acceptance of this policy.

Tuition and Registration Fees

The Constitution of the State of California, as amended November 6, 1900, authorizes the Legislature, under certain conditions, to exempt the property of the University from taxation, provided residents of California are charged no fees for tuition unless such fees shall be authorized by the Legislature. An Act of the Legislature, approved February 14, 1901, "exempting from taxation a portion of the property held in trust for the benefit of the Leland Stanford Junior University," as amended in March, 1907, provides "that while this Act is in force no fees shall be charged residents of this State for tuition, except that such fees may be charged in professional and engineering courses,

but no such fees shall be charged to any student who is registered in any such courses when this Act takes effect."

Tuition fees are charged in Law, for professional law courses, as follows: for students registering for thirteen or more units in law in any semester, *twenty-five dollars* per semester; for students registering for less than thirteen units in law for any semester, *two dollars* per unit per semester.

The tuition fee in the Department of Medicine is *one hundred and fifty dollars* per year.

Graduate students in Law and Engineering, and all undergraduates, are charged a registration fee of *ten dollars* per semester; special students, *fifteen dollars* per semester. But these registration fees are waived in the case of *bona fide* residents of California who have been resident in the State at least one year immediately preceding registration. Students in laboratory courses pay for the materials which they use, and in various courses syllabus and other fees may be charged. Laboratory and syllabus fees are different for the different courses, ranging from *fifty cents* to *twenty-five dollars* per semester.

Laboratory fees are ordinarily returnable as follows when duly claimed in writing within two months after the date of withdrawal from the University: thus, the whole amount will be refunded when the student withdraws within one week of the beginning of a semester, and one-half the amount if the student withdraws before the middle of a semester; but no fees will be refunded on account of withdrawals after the middle of a semester, nor unless claimed in writing within two months after the date of withdrawal. (This regulation is not applicable to the Department of Chemistry.)

A diploma fee of *five dollars*, payable before Commencement in May, is charged all persons receiving degrees from the University.

Cost of Living

The cost of living in Roble Hall, including board, room, light, heat, and attendance, averages about twenty-seven dollars per month. Students furnish their own linen, blankets, and towels. Requests for reservation of rooms should be made to the Matron of Roble Hall.

Rooms in Encina Hall, furnished similarly to those in Roble Hall, but without board, cost from $6.00 to $6.50 per month, with two in a room. There are a few single rooms at $8.00 per month. Students occupying a double room alone pay the full price of the room. Each double room is furnished with two single beds. Requests for reservation of rooms should be made to the Clerk of Encina Hall.

Students may live outside the Halls only in places approved by the University.

In Palo Alto and College Terrace, at an average distance of a mile and a quarter from the University, rooms and board, in private houses, can be obtained, at from twenty five to thirty dollars per month. A considerable number of students live in co-operative clubs, in which the cost of board and room is reduced as low as eighteen dollars per month; such rooms are lighted and heated, but usually unfurnished. Special commutation tickets are issued by the Southern Pacific Company, and students living in towns on the line of the railway, from San Francisco to San Jose, easily go to and from the University daily. There is also trolley connection with San Jose, Los Gatos, and intermediate towns.

On arriving at the University, new students may obtain information of rooms and board at the Information Bureau conducted by the Christian Associations. A complete list of approved rooms and boarding places is printed in August. Particular inquiries may be addressed to the secretaries of the Christian Associations.

The University Inn, located near the Quadrangle, has dining accommodations for about three hundred students.

Books and stationery will average from eighteen to twenty-five dollars per year.

The necessary expenses of the student, exclusive of clothing and railway fares, range from $300 to $450 per year.

Self-Support of Students

A considerable number of students manage, in one way or another, to earn the whole or a part of their expenses while attending the University. Such opportunities occur in the line of office and laboratory assistance, personal services of numerous kinds, the management of various student enterprises, agencies for laundries, etc.

The Student Employment Bureau (in charge of the Christian Associations) registers without charge all students who apply for employment, and supplies employers with student labor as demanded. In general, the demand and supply are nearly equal, but the attention of new students who intend to earn the whole or part of their living is called to the following results of past experience:

1. There is a constant *over-supply* of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to secure employment the first semester.

2. There is a considerable demand for efficient stenographers; also for men and especially women students who can do domestic labor

of any kind; board and room rent may be earned by waiting on table, washing dishes, general housework, house cleaning, gardening, etc.

3. Students who can do any kind of domestic or manual labor *well,* and who have thoroughly good health, can earn their board by three hours' work per day, or board and room by four hours' work per day. Those who are bookbinders, printers, mechanics, or carpenters, will have a decided advantage in obtaining employment. *But no student should come to the University without resources sufficient for the expenses of one semester.*

4. The University curriculum is adapted to those who have control of their entire time for study. The student who must earn his living, therefore, should expect to take less than the usual amount of University work.

5. No student should come expecting to earn money, who can do nothing well; skill is absolutely essential, as competition is quite as severe in the college community as elsewhere.

6. Opportunities for earning money during the summer vacations can usually be counted on, the demand for canvassers being most constant.

Particular inquiries concerning opportunities for self-support should be addressed to the Secretaries of the Christian Associations. Upon arrival at the University new students should report for registration and information to the Information Bureau of the Associations.

University Health Control

The University exercises an advisory control over student health affairs through the Committee on Public Health, whose Chairman is the University Health Officer.

Every student upon entering the University is required to report to the University Health Officer for a brief medical examination. General health, eyesight, hearing, and evidence of effective vaccination are the important factors in the examination. Any condition which may place a limitation on the amount or kind of work planned by the student is discussed with him or made the subject of a report to his major department or to the Committee on Registration.

Students intending to train for any of the athletic teams, or to register for gymnasium work, are required to pass a careful physical and medical examination at the beginning of each semester.

A careful inspection of all boarding and rooming houses in the community is carried out under the supervision of the Public Health Committee, and only those are permitted to register who arrange to live in houses which have been approved.

All students are entitled to medical consultation and to individual advice in other matters directly or indirectly relating to their health, at any time during the year; but no treatment is undertaken by the University.

Student's Guild

The Guild is a student organization which seeks to make provision for the care of all cases of serious illness among its members. In 1909-10, this was accomplished for non-contagious diseases, through an arrangement with the Peninsula Hospital of Palo Alto. For the care of contagious diseases, it will be necessary to erect a detention hospital upon the University campus. This the Guild hopes to do in the near future.

All students are required to become members of the Guild by paying the fee, which for 1910-11 is two dollars each semester. A uniform hospital rate of one dollar per day is charged all members of the Guild.

The officers of the Guild for 1909-10 are as follows: President, Wayland Augustus Morrison, '10; Vice-President, Ethel Rebecca Palmer, '10; Secretary, James Clayton Robbins, '10; Treasurer, Frank Kenneth Pomeroy, '10. Directors: the officers; William White Southard, '10; Professors Gilbert, Mitchell, and Stoltenberg.

GRADUATION

Candidates may present themselves for graduation in January, May, and September.

No degree will be conferred upon any person who has not spent at least one year in resident study at the University. No honorary degrees are given.

Bachelor of Arts

The degree of Bachelor of Arts (A. B.) is conferred upon candidates who have satisfactorily completed a total of one hundred and twenty units of University work and who have also satisfied the requirements in major and minor subjects.

Thirty units constitute a normal year's work (see p. 57), but the ordinary class divisions (freshman, sophomore, junior, senior) are not recognized by the University. The degree is conferred whenever the requirements are met, without regard to the time spent, except that at least thirty units (including the last fifteen) must be completed in this University.

Each student selects as his major subject or specialty the work of some one department. This department has the authority to require the completion of this *major* subject, and also of such *minor* subjects in other departments as may be considered necessary or desirable collateral work. Such major and minor requirements taken together will not (except in the departments of applied science) exceed forty units of University work, or one-third of the student's time during his undergraduate course.

A course in English Composition (English A) is a prescribed study for first-year undergraduates who do not satisfy the matriculation test.

With these exceptions, all the undergraduate work in all departments is elective. The student may freely choose for such elective work any subject taught in the University, which his previous studies have prepared him to undertake.

The department in charge of the major subject of any student is expected to act as adviser to the student in educational matters, and the recommendation of the department is necessary to graduation.

(A student in regular undergraduate standing who does not intend to become a candidate for the A. B. degree, may choose, with the approval of the major department, any courses in the University which his previous training has prepared him to undertake.)

Candidacy for Advanced Degrees

Every applicant for an advanced degree must file at the Registrar's office not later than the beginning of the semester preceding that in which the degree is sought, a formal application including a statement of the proposed course of study. This application must be approved by the department faculty concerned, and upon acceptance by the Committee on Graduation the applicant is admitted to candidacy for such advanced degree. It is advisable that such application be made as early as possible in the student's course. Where a thesis is required it shall be upon a subject approved by the department and, if for the doctor's degree, shall be presented in its final form, to the Chairman of the Committee on Graduate Study, at least six weeks before the close of the semester in which the degree is sought. Accepted theses for the master's degree shall be bound in a uniform style and deposited in the University Library. No advanced degree will be conferred except upon the recommendation of the Committee on Graduate Study.

Master of Arts

The degree of Master of Arts (A. M.) is conferred upon graduates of this University, and upon others who have had an equivalent training elsewhere, on the satisfactory completion, in residence, of one year of graduate work, beyond the baccalaureate requirements of the department in which the degree is sought, and on the presentation of an approved thesis, or the passing of a satisfactory examination, or both. At least two-thirds of the year's work required of the candidate is to be devoted to the major study. Work done in the University outside of the requirements for the degree must be registered, but will not be taken into account in connection with the degree.

Special regulations are as follows:

1. A report upon the character of the work done will be made by each instructor under whom a candidate is registered.

2. Some evidence of ability to do independent work is required of every candidate. In addition, therefore, to examination, a thesis is expected, unless such evidence is furnished in other ways.

Engineer

In the departments of applied science the professional degree of Engineer is conferred upon graduates of this University, and upon others who have had an equivalent training elsewhere, on the satisfactory completion, in residence, of one year of professional study beyond the baccalaureate requirements of the department in which

the degree is sought, and on the presentation of an approved thesis, showing ability to do independent work.

Juris Doctor

The degree of Juris Doctor (J. D.) is conferred upon students who have previously received the academic degree of Bachelor of Arts, or its equivalent, upon the completion of a three years' professional law course as defined by the Department of Law.

Doctor of Medicine

The degree of Doctor of Medicine (M. D.) is conferred upon students who complete the four years' course in Medicine based upon the three years' pre-medical course as laid down by the University.

Doctor of Philosophy

The degree of Doctor of Philosophy (Ph. D.) is conferred upon graduates of this University, and upon others who have had an equivalent training elsewhere, on the satisfactory completion of at least three years of graduate work, beyond the baccalaureate requirements of the department in which the degree is sought, under the following conditions:

1. The degree is given only on the ground of advanced scholarship and the ability to do independent work in some special line, and not for merely faithful study for a prescribed time or course, nor for miscellaneous study. Three years represents the minimum time in which the degree can be obtained, and often a longer period of study will be necessary.

2. Graduate work done elsewhere may be accepted in place of resident study in this University; but in no case will private study without sufficient guidance, or pursued at a distance from libraries or laboratories or other necessary facilities, be accepted as an equivalent; and no degree will be granted to any person who has not spent at least the last year of such study in residence at this University.

3. All candidates will be required to show a reading knowledge of French and German, and this requirement must be fulfilled at least one year before the final examinations for the degree. The candidate's ability to read his special literature in these languages shall be tested by the faculty of the department in which the major subject is taken.

4. The course of study shall embrace one major subject and one or two minors. The minor subject or subjects shall represent approximately one-third of the course of study; except that such minor subjects may be waived on the recommendation of the department in which the

major subject is taken and with the approval of the Committee on Graduate Study, when the breadth and extent of the candidate's training justify such a course—in which case the candidate will be expected to show such breadth of training in his oral examinations.

In the nature of the case the work offered as minors can not always be graduate work, but it should be advanced work and should, whenever possible, be planned as part of the course leading to the Ph. D. degree. If the work has been done before the student enters this University it shall be passed upon by the department in which it would have been done if taken here. This department is free to test the candidate as it sees fit.

5. The candidate must present a thesis of such a character as shall display power of original and independent investigation and constitute an actual contribution to knowledge. He must guarantee the printing of the thesis, in a form approved by the Committee on Graduate Study, within one year after the degree is conferred, and must deposit one hundred copies in the University Library.

6. The candidate must sustain final written examinations in major and minor subjects conducted by the department in which the study was taken and also shall submit to an oral test or examination by the special Examining Committee of the Faculty.

The special Examining Committee shall consist in each case of (1) the professor in charge of the major subject, (2) the one or more professors in charge of the minor subjects, (3) two members of the Committee on Graduate Study whose departments lie nearest to that of the major professor, and (4) the Chairman of the Committee on Graduate Study, acting as its secretary.

The High School Teacher's Certificate

County, and City and County Boards of Education are authorized to grant High School Certificates (under Sections 1521, 1775, and 1792 of the Political Code of California) to candidates recommended by the University as having fulfilled the requirements laid down by the State Board of Education, and provided the institutions concerned "shall each certify to the high character of the work accomplished under its direction, and to the personal fitness of the candidate."

The requirements laid down by the State Board of Education will be met by accomplishing the work outlined in either of the following groups:

Group I

1. Graduation from a college requiring not less than eight years of high school and college training.

2. One year of graduate study in a university belonging to the Association of American Universities, part of the time at least being devoted to one or more of the subjects taught in the high school.

3. Eight hours per week for one-half school year in the Department of Education, taken as a part of either the graduate or undergraduate course.

4. Practical teaching, equivalent to at least four hours per week for one-half school year, in a well-equipped school of secondary grade directed by the Department of Education of any of the universities belonging to the Association of American Universities, or in a school of grammar or secondary grade in connection with a California State Normal School, or under the direction of the Department of Education of the University of California, or of the Leland Stanford Junior University.

Group II

1. Graduation from a college requiring not less than eight years of high school and college training.

2. One-half year of graduate study in a university belonging to the Association of American Universities, part of the time at least being devoted to one or more of the subjects taught in the high school.

3. (*a*) Graduation from a California State Normal School or other normal school officially recognized by the State Board of Education as of equivalent grade; *or* (*b*) twenty months' experience with decided success as a regular teacher or as principal in any reputable school, elementary or secondary; *or* (*c*) six months as student teacher in a well-equipped school of secondary grade directed by a California State Normal School, or its recognized equivalent, or in a school of grammar or secondary grade in connection with a California State Normal, or under the direction of the Department of Education of the University of California, or of the Leland Stanford Junior University.

The University Recommendation

The year of graduate study prescribed by the State Board of Education will be interpreted as not less than twenty-six units, including the prescribed work in education and practice teaching.

In addition to the technical requirements prescribed by the State Board of Education the University will require, as preliminary to any recommendation for the high school teacher's certificate, the completion of enough work (and of sufficiently high grade), in at least one subject, to secure a Department recommendation that the candidate is fitted to teach the subject in high school classes.

The Department requirements for such recommendation are, in most cases, stated in the Register under the Department headings; but each candidate *should find out definitely* from the Departments concerned, not later than the beginning of the Senior year, preferably earlier, the particular requirements which must be met.

It is advisable that every candidate for the teacher's recommendation should endeavor to fulfil the Department requirements in at least *two* high school subjects.

For information and advice as to possible and desirable combinations of subjects for high school positions, students are invited to consult the Appointment Secretary.

Recommendation of Teachers

The University undertakes (1) to keep a record of students and graduates who wish to teach, or to be transferred to other teaching positions, and (2) upon application of Boards of Education, School Trustees, or other officials, to recommend for suitable vacancies such candidates as seem most likely to succeed.

The University does not solicit positions for its graduates, and reserves the right to refuse to recommend candidates enrolled. Information received from University instructors and others regarding the fitness of candidates is regarded as confidential, and general letters of recommendation are not given.

Blanks for registration may be obtained of the Secretary, at the Registrar's office. They should be filled out each year, preferably during March or April.

The Grammar School Teacher's Certificate

Under Section 1775 of the Political Code of California, as amended March, 1909, County Boards of Education are authorized to grant, without examination, grammar school certificates "to holders of diplomas of graduation of the four-year course of the University of California or Leland Stanford Junior University when said holder of such diploma shall have had six months' training in one of the State Normal Schools of this State or has had eight months' successful experience in teaching in the public schools of California after graduation."

Under Section 1543 of the Political Code of California, as amended March, 1909, County Superintendents of Schools are authorized "to issue temporary elementary certificates valid for two years to graduates of the University of California and to graduates of the Leland Stanford Junior University"; but "no person shall be entitled to receive a temporary certificate more than once in the same county."

COURSES OF INSTRUCTION

[1909-10]

GREEK

Augustus Taber Murray, Professor.
Henry Winchester Rolfe, Associate Professor.
Edward William Hope, Instructor.
Ernest John Cummings, Assistant.

With the co-operation of the instructors in the Department of Latin.

Undergraduate Courses

Instruction in the lower classes is given chiefly by means of recitations, but as the student advances these are supplemented by lectures.

It will be seen that provision is made for those who have had no Greek before coming to the University.

The Teacher's Recommendation.—Courses 2, 3, 4, and 17 constitute the minimum requirement for the high school teacher's recommendation in Greek.

1. Elementary.—Grammar; translation of easy prose; Greek composition. After the essential grammatical forms have been mastered, passages of continuous prose are taken up for translation, and, as soon as is practicable, the Anabasis. The student is made familiar with the ordinary forms of syntax, and exercises in writing Greek are regularly introduced. This course does not count as a part of the major work for students in Greek.

3 units, both semesters (Hope)

2. Xenophon and Plato.—Selections from Xenophon's Hellenica, with Plato's Apology and Crito. Open to those who have offered subject 22 on entrance, or who have completed course 1 in the University.

3 units, 1st semester (Hope)

3. The Odyssey and Herodotus.—A continuation of course 2. Selections from the Odyssey and from Herodotus.

3 units, 2d semester (Hope)

4. Prose Composition and Sight Translation.—Simple prose is taken up for sight-reading, and the exercises are based upon the text read. Required of Greek major students in connection with courses 2 and 3.

2 units, both semesters (Hope)

6. Geography.—The geography of the Greek world, and the geographical ideas of the Greeks. [Not given in 1909-10.]
1 unit, 2d semester (ROLFE)

7. Homer.—A critical study of the Iliad, with discussions and papers on Homeric topics. Prerequisites: courses 2 and 3, or an equivalent. Students taking course 7 are expected to attend the conferences on Homeric Civilization: see course *23b*.
3 units, 1st semester (ROLFE)

8. Euripides, Lucian, etc.—The Alcestis of Euripides, selections from Lucian, and selections from the Lyric Poets. A continuation of course 7. 3 units, 2d semester (ROLFE)

10. History of Greece.—A general outline course Not open to first-year students. 2 units (three lectures), 1st semester (ROLFE)

12. Greek Art, Ritual, and Mythology.—With especial reference to Sculpture and Vase Painting. Lectures, with stereopticon.
2 units (three lectures), 2d semester (ROLFE)

13. Private Life of the Greeks.—Lectures, illustrated by stereopticon. [Not given in 1909-10.] 2 units, 2d semester (HOPE)

13b. The Economic Life of Greece.—A study of the economic basis of Greek civilization. Lectures and collateral reading.
2 units, 2d semester (HOPE)

14. Greek Tragedy.—The Prometheus of Aeschylus, the Antigone and Electra of Sophocles, and the Hippolytus and Iphigenia Taurica of Euripides. Other plays are assigned for private study, and lectures on the drama are from time to time given.
3 units, both semesters (FAIRCLOUGH, MURRAY)

15. Plato and Demosthenes.—The Phædo and the De Corona.
3 units, 1st semester (MURRAY)

16. Thucydides.—Books VI and VII, the Sicilian Expedition.
3 units, 2d semester (MURRAY)

[Courses 15 and 16, alternating with course 14, were not given in 1909-10.]

17. Teachers' Course.—Lectures and practical exercises.
2 units, 1st semester (HOPE)

18. Bucolic Poetry.—Selected Idylls of Theocritus, Bion, and Moschus and the Eclogues of Virgil are read and interpreted. [Students completing this course receive one unit credit in Greek and one in Latin.] 2 units, 1st semester (FAIRCLOUGH)

19. Greek Testament.—A study of the Acts of the Apostles.
2 units, both semesters (MURRAY)

20. Lyric Poetry.—Selections from the Lyric poets, with accompanying lectures. [Not given in 1909-10.]
2 units, 2d semester (FAIRCLOUGH)

21. General Lectures.—A series of lectures on various phases of Greek and Roman civilization. Open to all students. Those who do prescribed reading may obtain two units instead of one. [Not given in 1909-10.] 1 unit (two lectures weekly), both semesters
(MURRAY, with the co-operation of other instructors)

22. Introductory.—An introduction to the study of the Greek language, based largely upon the Greek element in English, and leading to the rapid reading of Mark's Gospel. Open to all students. [Not given in 1909-10.] 3 units, 2d semester (MARTIN)

GRADUATE COURSES

The center of the Graduate work is the Greek Seminary—made up of the director and such students as satisfy him of their fitness for the work. The Seminary meets weekly for the critical interpretation of some Greek author, the different members, in turn, filling the post of interpreter. Topics for investigation are assigned, and papers prepared by the members are read and discussed.

Members of the Seminary are expected to supplement their critical work by wide reading, and lectures on the author or authors under discussion are given by the director. It is in the highest degree desirable that all members of the Seminary should be able to read both French and German.

23. The Greek Seminary.—In 1909-10 the Seminary was occupied with the study of Homer. Portions of the Iliad were taken up for critical study, and lectures on the structure of the poem and the history of the text were given by the director.
4 to 6 units, both semesters (MURRAY)

23b. Conferences on Homeric Civilization.—The various instructors in the department of Greek meet weekly with advanced students for the discussion of problems pertaining to Homeric civilization and the early age of Greece. Students registered for course 7 should attend these conferences. 2 units, both semesters
(MURRAY, assisted by other instructors)

24. Rapid Reading.—Graduate and advanced students meet weekly for the rapid reading of the Iliad and the Odyssey.
2 units, both semesters (MURRAY)

Special Lectures

Throughout the year Professor Murray gives lectures, thrice weekly, on Greek Epic and Dramatic Poetry. These lectures are intended for general literary students, and do not presuppose a knowledge of Greek; they do not count as part of the major work for students in Greek. The courses are not open to incoming freshmen.

Two credit-units are given for the course; a third unit is given those who complete additional assigned work.

26. The Greek Epic.—
2 or 3 units (three lectures), 1st semester (Murray)

27. Greek Tragedy.—
2 or 3 units (three lectures), 2d semester (Murray)

LATIN

Henry Rushton Fairclough, Professor.
Jefferson Elmore, Benjamin Oliver Foster, †Ernest Whitney Martin, Assistant Professors.
Philip Arnold Knowlton, Instructor.
Esther Jean Spencer, Assistant.

With the co-operation of the instructors in the Department of Greek.

Undergraduate Courses

The aim of the undergraduate courses in Latin is to give the student a somewhat systematic knowledge of the language and its development, an acquaintance with the representative authors of Latin literature, and some insight into the life, culture, and civilization of ancient Rome.

The Department recognizes two classes of major students: (1) those who wish to pursue a course of liberal studies, including Latin as a prominent feature; (2) those who, expecting to teach Latin, desire to be properly equipped for that purpose.

Students who wish to qualify for teaching Latin must take courses 2, 4, 5, 6, 7, 8, 9, and 17, together with such other courses as are recommended by the Department. To other students more freedom of choice is allowed.

1. **Virgil and Cicero.**—Virgil, selected books of the Æneid; Cicero, selected orations. This course is planned for those who have passed in entrance subject 21*a*.
3 units, both semesters (Spencer)

†Absent on leave, 1909-10.

2. Terence, Cicero, and Horace.—Terence, Andria; Cicero, De Senectute; Horace, Odes and Epodes; selections from Catullus. Open to students who have completed course 1, or who have offered entrance subject 21*b*. Two sections.

3 units, both semesters (FOSTER, KNOWLTON)

3. Terence, Cicero, and Selections.—Terence, Andria; Cicero, De Senectute; selections from legal writers. Intended for non-majors who can not devote more than four unit-hours to Latin. Not open to Latin majors. 2 units, both semesters (FAIRCLOUGH, KNOWLTON)

4. Prose Composition I.—Open to those taking course 2. One hour each week will be devoted to class-room work in composition; for the other hour the class will be divided into small groups which will meet with an instructor for practical exercises and rapid reading of easy prose. 2 units, both semesters (FOSTER)

5. Horace.—Satires and Epistles. Open to those who have completed course 2 or 3. Attention is directed especially to the style and subject matter, to Horace's influence upon later literature, and to the salient features of the Augustan age.

3 units, 1st semester (ELMORE)

6. Livy and Tacitus.—Selections from Livy's History and the Annals of Tacitus. This course, complementary to course 5, involves a survey of Roman history and the literature of the early empire.

3 units, 2d semester (ELMORE)

7. Prose Composition II.—Open to students who have taken course 4. 2 units, both semesters (ELMORE)

8. Roman Comedy.—The Trinummus of Plautus and the Phormio of Terence. Attention is paid to the early forms, constructions, and metres, and to the staging of a Roman play, with some consideration of the differences in style and dramatic art between the two playwrights. 2 units, 1st semester (FOSTER)

9. The Letters of Cicero.—Selections from the correspondence are made with a view to obtaining a conception of Cicero's character as a man and to becoming acquainted, as far as possible, with the social and political conditions of the time.

2 units, 2d semester (ELMORE)

10. Pliny and Seneca.—Selections from the works of the younger Pliny and Seneca. 2 units, 1st semester (KNOWLTON)

11. Roman Elegy.—Selections from Catullus, Tibullus, and Propertius. 2 units, 1st semester (FOSTER)

12. **Lucretius.**—Selections from the De Rerum Natura are read with particular attention to the philosophic thought and its poetic treatment. [Not given in 1909-10.]

2 units, 2d semester (Fairclough)

13. **Prose Composition III.**—A course for advanced students.

1 unit, both semesters (Fairclough)

14. **Juvenal and Martial.**—Selections from the Satires of Juvenal and the Epigrams of Martial, with supplementary reading in other writers of the first century. 2 units, 1st semester (Elmore)

15. **Quintilian.**—Book X. Rhetoric and literary criticism among the Romans. 2 units, 1st semester (Rolfe)

16. **Roman Literature.**—Illustrative selections from various writers are read by the class. 2 units, 2d semester (Rolfe)

17. **Teachers' Course.**—Lectures on methods of teaching Latin, with practical exercises. Open only to advanced students.

2 units, 2d semester (Fairclough)

18. **Cicero's Philosophical Works.**—Lectures upon the life and career of Cicero with especial reference to his work in philosophy. Selections from the De Natura Deorum, Tusculan Disputations, and other philosophical works are read.

2 units, 2d semester (Knowlton)

19. **Roman History from the Sources.**—Cæsar's Civil War. [Not given in 1909-10.] 2 units, 1st semester (Foster)

20. **The Roman Novel.**—The Cena Trimalchionis of Petronius, and selections from Apuleius. 2 units, 2d semester (Foster)

21. **Introductory.**—Grammar and translation of easy prose. This course is intended only for mature and earnest students who have had no school training in Latin. Those who have had some slight previous training may be admitted the second semester.

3 units, both semesters (Knowlton)

Graduate Courses

These courses are open to graduates in Latin who have had at least two years' undergraduate work in Greek. The ability to read French and German is also very desirable, and, in the case of candidates for the degree of Ph. D., necessary. The aim of the courses is to give the student a thorough grasp and detailed knowledge of particular authors, and of certain periods and fields of literary activity, as well as a training in literary criticism, and an acquaintance with the methods of original research.

22. Latin Seminary.—In 1909-10 the Seminary was devoted to Epigraphy, with studies in the Corpus Inscriptionum.
2 to 6 units, both semesters (FAIRCLOUGH)

23. The Roman Epigrammatists.—A special study is made of the Epigrams of Martial with a view to determining the phases of life in which he was most interested. Lectures; readings of the text; reports on special topics. 2 units, both semesters (ELMORE)

24. Introduction to Latin Paleography.—Lectures and practice in reading facsimiles of manuscripts. [Not given in 1909-10.]
(FAIRCLOUGH)

25. Introduction to Latin Epigraphy.—Lectures in connection with course 22. 1 unit, both semesters (FAIRCLOUGH)

26. Oscan and Umbrian.—The study of the grammar is accompanied by a reading of the more important inscriptions.
2 units, 2d semester (FOSTER)

27. History of Classical Studies.—Lectures. [Not given in 1909-10.] 1 unit, 2d semester (ELMORE)

SPECIAL COURSES

29. History of Rome.—A general course, open to all students.
3 units, 2d semester (ELMORE)

31. Roman Art and Monuments.—A survey of the topography, architecture, sculpture, and other art-forms of ancient Rome and the provinces, illustrated with lantern-slides. This course, illustrative of Roman history and literature, is intended mainly for major students in Latin. Others must receive special permission from the instructor before registering. 2 units, 2d semester (FAIRCLOUGH)

32. Roman Private Life.—Lectures, with illustrations from ancient art and other sources. Open to all, but of special importance to Latin students. 2 units, 1st semester (FAIRCLOUGH)

33. Roman Political Institutions.—Lectures and assigned reading on the development and operation of the most important features of the Roman government. Open to all students. [Not given in 1909-10.] 2 units, 2d semester (ELMORE)

GERMANIC LANGUAGES

George Hempl, James Owen Griffin, Professors.
Karl G. Rendtorff, William Alpha Cooper, Associate Professors.
Macy Millmore Skinner, Assistant Professor.
George Henry Danton, Acting Assistant Professor.
Bruno Boezinger, Hermann Hilmer, Instructors.

The advanced courses are intended primarily for those students who are candidates for the degrees of Master of Arts and Doctor of Philosophy; but special consideration is also given to the needs of those who intend to make the teaching of German their profession. Graduate work in the Germanic languages is facilitated by the opportunities offered by the library of the late Professor Hildebrand of Leipzig, which contains a rich and well-chosen collection of works on German philology and literature.

The attention of all students of German is called to the course in the history of Germany, given as course 12 in the Department of History. This course should be taken as early as possible.

Students who intend to teach German are expected to take at least courses 3, 6, 7, 8, 13*b*, 14, 22, and either 9, 10, or 11. See also the notes to courses 2 and 13, and the note above course 9.

1. Elementary.—It is the object of this course to put the learner in possession of the elements of the German language. This implies: (1) a personal command of simple German, that is, the ability to understand such German whether heard or read, and to employ the language in simple conversation, narration, and description, both orally and in writing; (2) such a ready familiarity with the elements of German grammar as is essential for the attainment of this command of the language.

5 units, both semesters (Cooper, Skinner, Danton, Hilmer)

2. Second-year German.—(See note below.)

a. Reading.—Texts suitable for the second year; for the most part, the writings of contemporary authors. 3 units, both semesters
(Hempl, Griffin, Skinner, Boezinger)

b. Reproduction and Production, oral and written.—The work of this course is intended to assist the pupil in getting a personal command of German, both spoken and written; with it is correlated a thorough review of the elements of the grammar. 2 units, both semesters
(Griffin, Cooper, Danton, Boezinger)

Note.—Students expecting to continue the study of German beyond the second year are supposed to have completed both *2a* and *2b* or an equivalent.

3. Classical German Drama.—This course aims chiefly to be an introduction to the spirit of the classical German drama; but throughout the course an effort is also made to familiarize the student, by means of various selected readings, with the life and character of the German people. 3 units, both semesters (GRIFFIN, RENDTORFF)

4. Modern German Drama.—Lectures in connection with the interpretation and rapid reading of some of the more important works of the modern dramatists. 2 units, both semesters (GRIFFIN)

5. Modern German Novels.—The reading of standard modern novels, with lectures on the development of the novel.
2 units, both semesters (SKINNER)

6. Advanced German Grammar.—A systematic presentation of the important facts of German grammar, together with individual investigations of the usage of various writers.
2 units, both semesters (HEMPL)

7. German Composition.—By composition is meant, not translation from English, but practice in putting one's thoughts into acceptable written German.
2 units, both semesters (BOEZINGER, HILMER)

8. Advanced Composition.—
2 units, both semesters (BOEZINGER)

Note.—Students wishing to take up any of the three following courses (9, 10, 11) will be expected to have such preparation as can be obtained by pursuing courses 3 and either 4 or 5.

9. Lessing.—Lectures on Lessing's life and times, with reading and discussion of his principal works.
3 units, both semesters (DANTON)

10. Schiller.—Lectures on his life, together with interpretation and discussion of his writings.
3 units, both semesters (SKINNER)

11. Goethe.—

a. Lectures on Goethe's life and works, and reading of selected poems. [Not given in 1909-10.]
3 units, both semesters (COOPER)

b. Faust, Part First and Part Second.
3 units, both semesters (COOPER)

13. **The History of German Literature.**—Lectures and readings.

a. From the earliest times to the eighteenth century. [Not given in 1909-10.] 2 units, both semesters (RENDTORFF)

b. The eighteenth and nineteenth centuries.

2 units, both semesters (RENDTORFF)

Note.—Students electing course 13 are expected to have pursued a general course in the history of English literature and to be able to read German with facility.

14. **Teachers' Course.**—Lectures on the various methods employed in teaching modern languages, together with practical advice in the matter of conducting classes. 2 units, 2d semester (HEMPL)

15. **The Genesis of Grammar.**—Lectures on the origin and development of the parts of speech and of other grammatical apparatus. 2 units, 1st semester (HEMPL)

16. **Middle-High German.**—Grammar and selected texts (first semester); Walter von der Vogelweide (second semester).

2 units, both semesters (RENDTORFF)

17. **Old-High German.**—[Not given in 1909-10.]

2 units, both semesters (HEMPL)

18. **Old Norse.**—[Not given in 1909-10.]

2 units, both semesters (HEMPL)

19. **Old Frisian.**—

2 units, both semesters (HEMPL)

20. **The Runes.**—Lectures on the origin and development of the primitive Germanic alphabet. [Not given in 1909-10.]

2 units, 1st semester (HEMPL)

21. **The History of German Civilization.**—This course is intended for students of German who wish to become acquainted with the development of German civilization in its relation to German literature. 2 units, both semesters (RENDTORFF)

22. **The History of Germany.**—[See course 12 in the Department of History, and the note at the beginning of this section, page 12.]

23. **Thesis Course.**—Special investigations and reports intended to furnish training in preparation for original research work. Under the direction of the various members of the staff. Credit subject to individual adjustment.

ROMANIC LANGUAGES

JOHN ERNST MATZKE, Professor.
OLIVER MARTIN JOHNSTON, Associate Professor.
COLBERT SEARLES, CLIFFORD GILMORE ALLEN, ALBERT LÉON GUÉRARD, Assistant Professors.
ERNEST GEORGE ATKIN, ROBERT EDOUARD PELLISSIER, Acting Instructors.

The undergraduate courses in the Romanic Languages are planned so as to give students an intimate acquaintance with the modern forms of the languages spoken in the principal neo-latin countries. To this end systematic attention is paid to pronunciation, reading, syntax, and conversation. In the higher courses special emphasis is laid on the study of literature. In order to give students an opportunity to become familiar with the spoken idioms, several of the advanced courses are conducted as much as possible in the language which forms the object of study.

The Department recognizes two classes of major students: (1) students who expect to teach French or Spanish and who wish to take up the study from the point of view of the specialist; (2) students who desire to group a course of study of a general nature around that of French or Spanish.

Either French or Spanish may be selected as a major subject. In French the minimum requirement consists of courses 2, 3*a*, 4, 5, 6, 7, 8, 9, 10, and 11. In Spanish the same requirement includes courses 12, 13, 14, 15, 16, 17, and 18.

In addition major students who intend to teach either French or Spanish will be expected to take Latin 1, 2, and 4, German 1 and 2, and Elementary French or Spanish or Italian.

The Teacher's Recommendation.—The minimum requirement for the High School recommendation is as follows: In French—courses 2, 3*a*, 4, 6, 7, and 8; in Spanish—courses 12, 13, 14, 15, 16, 17. The Department will insist also on courses 22 and 23. Recommendations will be given only on the vote of the Department, and will demand a degree of scholarship above the ordinary passing mark.

1a. Elementary French.—Fraser and Squair, French Grammar, with written and oral exercises and systematic training in French pronunciation on the basis of Matzke's Primer of French Pronunciation; Aldrich and Foster's French Reader.

3 units, both semesters (ALLEN, PELLISSIER)

1b. Elementary French, Reading Course.—The course is intended for students who merely desire to obtain a reading knowledge

of the language, and does not prepare for the more advanced courses in the Department. Aldrich and Foster, Foundations of French; Aldrich and Foster's French Reader; Mérimée, Colomba.

3 units, both semesters (Searles)

[Courses 1*a* and 1*b* are continuous courses, open to all, but students desiring to enter after the end of the second week will be admitted only upon special examination.]

2. Second-year French Composition.—François, Advanced French Prose Composition. Open to students who have completed course 1*a*, or who have received credit for entrance subject 19*a*.

2 units, both semesters (Johnston, Searles)

3. Modern French Reading.—Translation of selected texts in prose and verse. Three sections will be conducted, as follows:

a. Required of major students and open only to others taking course 2 or having completed it. Prerequisite course 1*a* or entrance subject 19*a*.

b. General Reading section open to students who have completed courses 1*a* or 1*b*, or who have received credit for entrance subject 19*a*.

c. French Historical Reading. Julian, Extraits des Historiens Français du XIXe siècle; Seignobos, Extraits historiques de Michelet; Taine, Introduction à l'Histoire de la litterature anglaise. Open on the same conditions as section *b*.

2 units, both semesters (Johnston, Searles, Guérard)

4a. French Conversation.—There are three meetings of the class during the week, for which one unit of credit is given toward graduation. Open to students who have completed course 1, or who have received credit for entrance subject 19*a*.

1 unit, both semesters (Guérard)

4b. French Pronunciation.—Practice in French pronunciation with the phonograph, required for one semester of all students registering for course 4*a*, unless excused by the instructor, and open to others likely to profit by such practice as far as the limitations of time and space will permit. One class exercise and two practice hours each week. 1 unit, either semester (Searles)

[Courses 2, 3, and 4 constitute the second year's work in French, and should, if possible, be taken during the same year. Course 4 may not precede course 2.]

5 **Reading and Writing of French.**—An intermediate course in reading and composition intended primarily for students entering with entrance subjects 19*b* or 19*c*. 3 units, both semesters (GUÉRARD)

6. **Advanced French Prose Composition.**—Translation into French or selected English prose. Open to students who have completed course 2 or course 5. 2 units, both semesters (GUÉRARD)

7. **Outline Course in the History of French Literature.**—Lectures, supplemented by reading and reports by the members of the class. Not open to Freshmen. Prerequisite: course 3 or course 5. 3 units, both semesters (SEARLES)

8. **Classical French.**—A study of the principal authors of the classical period. Representative texts will be read from the works of Corneille, Racine, Molière, Voltaire, Le Sage, La Fontaine, and Boileau. Not open to Freshmen. Prerequisites: courses 2 and 3*a*, or course 5, or their equivalent. 3 units, both semesters (JOHNSTON)

9. **History of French Literature in the Nineteenth Century.**—Lectures, with reading of the principal authors and reports by the members of the class. Open to students who have completed courses 7 or 8. 2 units, both semesters (MATZKE)

[With permission Juniors and Seniors in other departments may register for one unit of credit in course 9 and be excused from the supplementary reading.]

10. **French Lyric Poetry in the Nineteenth Century.**—Fonsny and Van Dooren, Poètes Lyriques Français. The course is conducted in French. Open to advanced students who have had the equivalent of course 4. 2 units, 1st semester (GUÉRARD)

11. **Augier.**—A study of the theatre of Augier and French society from 1840-1880. The course is conducted in French. Open to advanced students who have had the equivalent of course 4. 2 units, 2d semester (GUÉRARD)

12. **Elementary Spanish.**—Giese, A First Spanish Book and Reader; Matzke, First Spanish Readings. A continuous course open to all. 3 units, both semesters (ALLEN, ATKIN)

13. **Second-year Spanish Composition.**—Ramsey, A Text-book of Modern Spanish; Umphrey, Spanish Prose Composition. Open to students who have completed course 12, or who have received credit for entrance subject 18*a*. 2 units, both semesters. (ALLEN)

14. **Modern Spanish Reading.**—Translation of selected texts in prose and verse. Open to students who have completed course 12 or who have received credit for entrance subject 18*a*. 2 units, both semesters (ATKIN)

15a. Spanish Conversation.—There are three meetings of the class during the week, for which one unit of credit is given. Open to students who have completed course 12, or its equivalent. [Not given in 1909-10.] 1 unit, both semesters

15b. Spanish Pronunciation.—Practice in Spanish pronunciation with the phonograph is open to students likely to profit by such practice, as far as the limitations of time and space will permit.

1 unit, either semester

[Courses 13, 14, and 15 constitute the second year's work in Spanish, and should, if possible, be taken during the same year. Course 15 may not precede course 13.]

16. Advanced Spanish Composition.—Translation into Spanish of selected English prose. Open to students who have completed course 13, or its equivalent. 2 units, both semesters (ALLEN)

17. Classical Spanish.—A study of the principal authors of the classical period. Representative texts will be read of Cervantes, Lope de Vega, Calderón, Alarcón, Tirso de Molina, as well as selections from Ford's A Spanish Anthology. Open to students who have completed courses 13 and 14 or their equivalent. [Not given in 1909-10.]

2 units, both semesters (ALLEN)

18. Outline Course in the History of Spanish Literature.—Lectures with reading of important works and reports by the members of the class. Open to students who have completed course 17 or its equivalent. 2 units, both semesters (ALLEN)

19. Elementary Italian.—Gaffino, A New Grammar of the Italian Language; Bowen, First Italian Readings; Manzoni, I Promessi Sposi. Open to all. 3 units, both semesters (JOHNSTON)

20. Advanced Italian.—Dante, La Divina Commedia. Translation course open to students who have completed course 19. [Not given in 1909-10.] 2 units, both semesters (JOHNSTON)

21. Dante and the Divine Comedy.—Lectures open to Juniors and Seniors in all departments.

2 units, 2d semester (JOHNSTON)

[Course 20 alternates with course 21.]

22. Phonetics.—Lectures on the organs and the nature and formation of speech sounds with special reference to the pronunciation of French. Intended particularly for teachers of language. Open only to advanced students. 2 units, 1st semester (MATZKE)

23. Teachers' Course in French.—Lectures on methods of teaching French, study of the available text-books, and review of French grammar. Open only to advanced students.

1 unit, 2d semester (MATZKE)

[Courses 22 and 23 are offered in alternate years; they were given in 1909-10.]

24. Boileau.—A study of Boileau's works and his theories of literary criticism. 3 units, 1st semester (MATZKE)

25. Racine.—A study of Racine and his theatre.

3 units, 2d semester (MATZKE)

26. The Roman d'Aventure.—A detailed study of several of the characteristic chivalrous romances of the XII and XIII centuries.

2 units, both semesters (MATZKE)

27. Journal Club.—The instructors in the department and the advanced students meet regularly on alternate Fridays for the discussion of the periodicals and new books.

ENGLISH LITERATURE AND RHETORIC

MELVILLE BEST ANDERSON, ALPHONSO GERALD NEWCOMER, Professors.
RAYMOND MACDONALD ALDEN, Associate Professor.
SAMUEL SWAYZE SEWARD, JR., HOWARD JUDSON HALL, LEE EMERSON BASSETT, HENRY DAVID GRAY, WILLIAM DINSMORE BRIGGS, Assistant Professors.
JOHN KESTER BONNELL, THERESA PEET RUSSELL, Instructors.
EDITH R. MIRRIELEES, Assistant.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

a. The courses in Chaucer, Shakespere, Milton (or Spenser or Wordsworth), History of English Literature (course 30 in the second year, 32 in the third year, and 31 in the fourth year), besides such preliminary courses in vocal training, composition, or literature as may be requisite in each individual case.

b. English History. Students entering credited with Entrance Subject 16 are considered as having fulfilled this requirement.

c. A sound knowledge of at least one foreign language and its literature—ordinarily interpreted as requiring a minimum of 16 units in the chosen language, not including Latin 1, German 1, or French 1.

In general, students are encouraged to include among their elected studies Latin or Greek (not less than two years; or, in case Latin or

Greek be selected to meet requirement *c* above, one modern foreign language), Anglo-Saxon, and a course in science, with laboratory work. Students preparing for journalism may substitute for the more advanced courses in literature, courses in Advanced Composition, History, Economics, and Social Science.

The Teacher's Recommendation.—Recommendation for the Teacher's Certificate in English is granted only by vote of the department on the basis of approved scholarship, and upon the completion of a certain amount of prescribed work. The undergraduate courses to be usually prescribed are, in the Department of English Literature, Vocal Expression, Composition, Prosody, Shakespere, Milton, Teachers' Course, and one course in the history of literature, and, in the Department of English Philology, Anglo-Saxon and Chaucer. In addition, at least one graduate course in each department, extending over a year, will be expected. When convenient, this study may be entered upon the second semester of the senior year.

Preliminary and General Courses

(Open to all students unless otherwise specified.)

A. Elementary Composition.—A one-semester course required of all first-year undergraduates except those who show themselves entitled to exemption.

1 unit, either semester (Hall, Bonnell, Mirrielees)

1. Principles of Vocal Expression.—A general course in vocal training, the use of the voice in reading and speaking, and the elements of interpretative reading, with practice in the preparation and delivery of short speeches.

3 units, one or both semesters (Bassett, Bonnell)

2. English Composition.—Practical work in narration and description, first semester; practical work in exposition, second semester.

2 units, both semesters (Gray, Briggs, Russell)

2a. English Composition.—The first part of course 2, offered as a one-semester course.

2 units, either semester (Newcomer, Seward)

2b. English Composition.—The second part of course 2, offered as a one-semester course. 2 units, either semester (Seward)

3. Note Taking.—Practice in the taking of notes, both from lectures and reading, and in the preparation of abstracts and summaries. 1 unit, either semester (Seward)

4. Modern English.—The spoken language. Lectures on the relation of English to other tongues, the history and character of its vocabulary, standards of pronunciation, etc.

1 unit, 2d semester (NEWCOMER)

5. English Classics.—The chief living books of English literature from Le Morte Darthur to the Idylls of the King. Lectures and readings, with outlined reading for the class. Not open to English majors. 3 units, both semesters (NEWCOMER, RUSSELL)

6. Introduction to Poetry.—A study of the nature, methods, and varieties of poetry, the elements of poetic form, and the elements of poetic criticism. 3 units, 2d semester (ALDEN)

6a. Tennyson.—A study of selected portions of Tennyson's poems, illustrating the growth of his literary art. A general course, designed for first-year students, and open to third-year and fourth-year students only by permission.

3 units, either semester (HALL, BASSETT)

9. The English Bible.—Representative books of the Bible studied as literature, with (1) some general account of the Bible in its entirety, (2) a grouping of the various books according to their form, and (3) a study of certain extended passages in each one of these forms, especially of those which have had the widest influence on English literature. [Not given in 1909-10.]

3 units, 2d semester (GRAY)

10. Shakespere.—A study of a number of plays selected to illustrate both the scope of Shakespere's genius and the development of his art. Designed primarily for English major students. Not open to first-year students. 2 units, both semesters (SEWARD, NEWCOMER)

10a. Shakespere.—A one-semester course, similar to course 10. Not open to English majors, nor to first-year students.

3 units, either semester (GRAY, ALDEN)

ADVANCED AND SPECIAL COURSES

I. VOCAL EXPRESSION

(Course 1 prerequisite.)

14. Vocal Interpretation.—*a.* Lyric poetry (first semester). Practice in the oral rendering of selections from the English poets of the nineteenth century. Designed particularly for students who intend to teach English literature.

b. Dramatic Literature (second semester). A careful analysis of two or three plays of Shakespere. Members of the class will vocally interpret characters and scenes assigned for individual study.

2 units, both semesters (Bassett)

15. Public Speaking.—Practice in the preparation and delivery of speeches, with attention to the style of spoken discourse based on a study of masterpieces of oratory. Prerequisites: courses 1 and 2.

2 units, both semesters (Bassett, Bonnell)

II. WRITTEN AND ORAL EXPRESSION

(Course 2 prerequisite.)

21. Advanced Composition.—Including both rapid writing and the preparation of long themes.

2 units, both semesters (Hall, Russell)

22. Narration.—The principles of invention and style in their practical application to narrative art. Open by permission to specially qualified students. 1 unit, both semesters (Seward, Alden)

24. Argument.—Practice in the preparation and presentation of material in expository and argumentative form, with some study of models. Open to a limited number of students.

3 units, 1st semester (Alden, Briggs)

25. Oral Debate.—Practice in the preparation and delivery of oral arguments, chiefly on current public questions. Open to a limited number of students who have taken, or are taking, course 24, to be admitted in the order of application.

2 units, both semesters (Alden, Bassett)

28. Teachers' Course in English.—A study of the methods of teaching Composition (first semester) and Literature (second semester) in secondary schools. Open to students in senior year.

2 units, both semesters (Seward)

III. HISTORY AND INTERPRETATION OF LITERATURE

30. Survey of English Literature.—Lectures, supplementing an outline study of the history of English literature.

2 units, 2d semester (Alden)

31. History of Early English Literature.—From the beginning to 1557. (English Philology 3). Open to fourth-year students.

3 units, 1st semester (Flügel)

32. Eighteenth Century Literature.—*a.* From 1660 to 1740, the age of Dryden and the age of Pope (first semester). *b.* From 1740 to

1798, the age of Johnson and the early Romantic Revival (second semester). Open to third-year students.

3 units, both semesters (ALDEN, HALL)

33. Early Nineteenth Century Literature: 1798-1832.—The age of Coleridge, Byron, Scott, and the Reviewers. Open to students of all departments in third and fourth years. [Not given in 1909-10.]

2 units, 1st semester (ALDEN)

34. Victorian Literature.—*a.* A survey of Victorian prose, with special emphasis upon Carlyle, Ruskin, and Arnold (first semester). *b.* A study of selected Victorian poets (second semester). Designed as a full-year course, but may be taken for one semester only.

2 units, both semesters (SEWARD)

35. English Fiction.—A course in the history of English fiction, with emphasis on the rise and development of the novel in the eighteenth and nineteenth centuries. Open to third-year and fourth-year students. 2 units, both semesters (BRIGGS)

36. Satire.—Open to those who have not had English 7.

2 units, 2d semester (RUSSELL)

37. English Drama.—English dramatic literature from its origin to the nineteenth century, omitting Shakespere. Open to students of all departments in third and fourth years. [Not given in 1909-10.]

2 units, both semesters (SEWARD)

38. The Modern Drama.—A study of certain significant dramas of Ibsen, and of contemporary dramatists, considered largely from a structural point of view. Open to students of all departments in their third and fourth years. 3 units, 2d semester (GRAY)

39. Prosody.—A study of the principles and history of English versification. Open to English students in the third and fourth years. [Not given in 1909-10.] 2 units, 2d semester (ALDEN)

41. Spenser.—The Faerie Queene in its relation to the epics of chivalry. 3 units, 2d semester (BRIGGS)

42. Milton: Paradise Lost.—Open to students of English in the third and fourth years; to students of other departments in the fourth year. [Not given in 1909-10.] 3 units, 1st semester (NEWCOMER)

43. Wordsworth, Byron, and Shelley.—Lectures and interpretations. Open to third-year and fourth-year students.

3 units, 1st semester (NEWCOMER)

44. Browning.—A general survey of his poetical works in lectures and readings. Open to students of all departments in the third and fourth years. 2 units, both semesters (ANDERSON)

GRADUATE COURSES

The preliminary requirements for entrance upon a course for an advanced degree in English are:

a. The course for the degree of A. B. in English or its equivalent.

b. An elementary knowledge of Anglo-Saxon.

c. A sound knowledge of two foreign languages (preferably one ancient and one modern language).

52. Theory of Poetry.—A study of the principal problems connected with the definition, classification, and criticism of poetry, and of the history of their critical treatment, with special reference to English literature. [Not given in 1909-10.]

2 units, both semesters (ALDEN)

53. English Lyric.—Studies in the lyric as a poetic form, and its development in England to the seventeenth century.

2 units, 1st semester (ALDEN)

54. Comparative Literature.—The romantic movements in English, French, German, and Italian literature, from the French Revolution to 1850. 3 units, 1st semester (ANDERSON)

55. Shakespere.—A critical study of Antony and Cleopatra, on the basis of the Variorum edition of Dr. Furness, and a more cursory examination of the two other Roman plays.

3 units, 2d semester (ANDERSON)

56. Dante.—Readings in The Inferno and Purgatorio.

Once a week, both semesters (ANDERSON)

ENGLISH PHILOLOGY

EWALD FLÜGEL, Professor.

WILLIAM DINSMORE BRIGGS, Assistant Professor (Department of English Literature).

1. Anglo-Saxon.—Anglo-Saxon Grammar and translation of select passages in prose. 3 units, 1st semester (BRIGGS)

2. Chaucer.—This course is an elementary one, and includes an outline of Middle English Grammar for the beginner.

2 units, 1st semester (FLÜGEL)

3. History of Early English Literature (to 1557).—[See English Literature 31*a*.] 3 units, 1st semester (FLÜGEL)

Advanced and Graduate Courses

In order to prepare the future high school teachers satisfactorily, candidates for the Teachers' Recommendation in English are expected to take besides the work in Literature, a whole year's advanced work in English Philology. If properly prepared they will be admitted to the Seminary and other advanced courses during the second semester of their senior year. Candidates for the Master's Degree are expected to do at least a year's post-graduate work in English Philology, for which a reading knowledge of German, French (old and modern), and Latin is a prerequisite.

4. **Middle English Exercises.**—
2 units, 2d semester (Flügel)

5. **Beowulf.**—[Not given in 1909-10.]
2 units, 2d semester (Briggs)

6. **English Paleography.**—[Not given in 1909-10.]

7. **Middle English Grammar.**—
2 units, 1st semester (Flügel)

8. **Chaucer** (advanced course).—Interpretation of the Prologue, the "Links," and lectures on the history of Chaucer Criticism. Prerequisite: Course 2 or its equivalent.
2 units, 2d semester (Flügel)

9. **Ballads and Lyrics of the Sixteenth Century.**—
2 units, 2d semester (Flügel)

10. **History of English Philology.**—Lectures. [Not given in 1909-10.]
2 units, 2d semester (Flügel)

11. **Seminary: Research Work.**—Papers and lectures.
2 units, both semesters (Flügel)

BIBLICAL HISTORY AND LITERATURE

David Charles Gardner, Lecturer.

1. **Life and Teaching of Christ.**—The history of the life and times of Jesus, with a study of His words as recorded in the gospels and the application of His teaching to the life of today. Lectures, discussions, and papers. 1 unit, both semesters (Gardner)

PHILOSOPHY

Henry Waldgrave Stuart, Professor.
George Holland Sabine, Assistant Professor.
John Madison Fletcher, Assistant.

Courses in Philosophy are not open to first-year students.

1. **Elementary Logic.**—A general course in the principles of Deductive and Inductive Logic with special attention to the important types of fallacious reasoning.

3 units, 1st semester (Stuart, Sabine)

2. **Elementary Ethics.**—A study of the distinction of Good and Bad in human conduct—its meaning and its rise in the experience of the individual. Texts, lectures, and reports.

3 units, 1st semester (Stuart)

3. **History of Philosophy.**—Lectures, prescribed reading, and occasional essays. This course is intended for the general student who wishes to know something of the history of philosophical ideas and systems, and their relations to the science, social and political conditions, and general culture of the periods to which they belong. The course will cover the development from the early Greek period to the end of the eighteenth century in Germany, closing with a brief outline of the main philosophical problems of the nineteenth century.

3 units, both semesters (Sabine)

4. **Philosophy of the Nineteenth Century.**—An historical study of the development of philosophical problems and theories since Kant. Prerequisite: course 3. 3 units, 1st semester (Sabine)

5. **Philosophy in the Life of the Nineteenth Century.**—This course will deal with the philosophical aspects of some of the more important social and literary achievements of the nineteenth century. The materials for study will be drawn chiefly from English literature, works being chosen which illustrate types of philosophical thought characteristic of this period. So far as possible, the conceptions thus found in literature will be correlated with technical philosophical systems. No preliminary course is required.

3 units, 2d semester (Sabine)

6. **Advanced Logic.**—A study of methods of investigation in use in the natural and social sciences, leading to a discussion of the logical value and philosophical significance of the cardinal assumptions and principles on which these methods are based. Selected investigations

from different fields constitute the material for discussion. Prerequisite: course 1 or an equivalent.

3 units, 2d semester (STUART)

7. Historical and Practical Ethics.—A study of important types of ethical theory in the light of the social conditions out of which they arose, and with reference to their practical outcome in conduct, followed by a study of the ethical aspects of certain problems of social and individual life. Lectures, assigned readings, and reports. A continuation of course 2, but open, after consultation, without this requirement.

3 units, 2d semester (STUART)

8. History and Applications of the Theory of Evolution.—Lectures and discussions. This course will begin by tracing the history of the theory of evolution from its appearance among the Greeks to its formulation by Darwin. It will then deal with some applications of the evolutionary method outside of biology and with some of the philosophical implications of evolution.

2 units, 2d semester (SABINE)

9. Problems of Modern Philosophy.—*a. Theory of Knowledge.* A study of the nature and functions of knowledge, with a view to defining the issues involved in contemporary discussion of the subject. Prerequisite: courses 1 and 6, or course 3, or an equivalent.

3 units, 1st semester (STUART)

b. Metaphysics.—A survey and discussion of the principal problems arising in the attempt to take a comprehensive and unified view of life and the world. Prerequisite: course 9*a* or an equivalent.

3 units, 2d semester (STUART)

PSYCHOLOGY

FRANK ANGELL, Professor.
LILLIEN JANE MARTIN, Associate Professor.

1. General Psychology.—Lectures and exercises. Not open to first-year students. Students will use Wundt's Human and Animal Psychology as a book of reference.

4 units, 1st semester (ANGELL)

2. Experimental Psychology.—Lectures, one hour; laboratory, two hours. Students are recommended to take this course in connection with courses 1, 5, and 6.

3 units, both semesters (ANGELL, MARTIN)

3. Psychology of Evidence.—Open to those who have completed course 1, or its equivalent. 2 units, 2d semester (ANGELL)

4. Advanced Laboratory Work in Psychology.—
3 units, both semesters (ANGELL, MARTIN)

6. Applied Psychology.—
2 or 3 units, 2d semester (MARTIN)

6a. Abnormal Psychology.—
2 or 3 units, 1st semester (MARTIN)

7. Current Psychological Literature.—In this connection a subsection for the purpose of reading German Psychology will be formed, if so desired. 1 unit, both semesters (ANGELL)

8. Readings in French and German Psychology.—
2 units, 1st semester (MARTIN)

9. Research Work.—
(ANGELL, MARTIN)

EDUCATION

ELLWOOD PATTERSON CUBBERLEY, †JOHN ANDREW BERGSTRÖM, Professors.
PERCY ERWIN DAVIDSON, RUFUS CLARENCE BENTLEY, Assistant Professors.
MORRIS ELMER DAILEY, Lecturer.
FRANCES ELIZABETH SHORT, EDWARD SAMUEL EVENDEN, Assistants.

The Department of Education offers three main lines of work:

1. Courses of a general nature on the history, function, and administration of public education, intended in part as information courses for the general university student and without reference to the work of teaching. To such students, courses 1, 2, 3, 7, and 10 are recommended.

2. Courses intended to assist other departments in preparing their students for work in secondary schools. All such students should confer with members of the Department of Education as to courses, but in general courses 1, 2, 5, and 6 are recommended if the candidate has not had experience in teaching. Course 6 will be required for the high school teacher's recommendation.

3. Courses primarily for major students, or those making Education a minor, and intended to give special preparation to (*a*) those who

†Died February 28, 1910.

desire to become teachers of Education in normal schools or colleges, (*b*) those who wish to prepare for supervisory or administrative positions in the public schools, and (*c*) those who wish to prepare for special work in the elementary field.

The courses in Education are open to all students as electives or as minor subjects, but only those who desire to prepare for one of the lines of work mentioned above under (3), and whose preparation and experience are satisfactory to the Department, will be accepted as major students. In special cases those without teaching experience may be accepted as major students, but all such must be approved in practice teaching (course 21) before graduation.

Major students begin their work in Education with the sophomore year, taking courses 1 and 2.

1. Public Education in America.—A study of the province and some of the more important problems of public education in the United States. An introductory course. Lectures, following a syllabus, with assigned readings. Open to second-year students.

2 units, 1st semester (CUBBERLEY)

2. Educational Theory.—An introductory course dealing with topics fundamental to education, such as the nature of infancy, physical and social heredity, the relation of the organism to environment, of instinct to habit, etc. Lectures, following a syllabus, with assigned reading. Open to second-year students.

2 units, 2d semester (DAVIDSON)

3. History of Education in Europe.—A study of the development of educational ideals and systems from the time of the Greeks and Hebrews to the present, with particular reference to the forces which have operated in the evolution of the various historic ideals and schools. The first semester covers the period up to the Reformation, and the second semester the period from the Reformation to the present. Either semester may be taken separately. Lectures, following a syllabus, with assigned readings. Open to third-year students.

3 units, both semesters (CUBBERLEY)

4. Sources for the History of Education.—A more extensive and intensive study of the sources for the History of Education in Europe than is undertaken in connection with course 3. This course may be taken in connection with course 3, or subsequently, but can not precede it. [Not given in 1909-10.]

2 units, both semesters (CUBBERLEY)

5. Educational Psychology.—This course will include a study of such subjects as the psychological bases of courses of study and methods of teaching, the psychology of learning, experimental pedagogy, genetic psychology, child study, and defective children. The course will require some previous knowledge of general psychology. Those who have not had such preparation should take course 1 in the Department of Psychology before beginning this course.

3 units, 2d semester (BENTLEY)

6. Secondary Education.—A course dealing with the organization, scope, and methods of public and private secondary schools in America, and intended primarily for and required of those preparing for the high school teacher's certificate. The work is as follows: First semester: general principles of teaching; comparative study of the methods recommended in the Report of the Committee of Ten and in later reports of committees dealing with secondary education; discipline, moral training, school management, and school hygiene. Second semester: psychology of adolescence; courses of study; new types of secondary schools, and a comparative study of secondary school systems. Open to seniors and graduate students only.

2 units, both semesters (BERGSTRÖM, BENTLEY)

7. History of Education in America.—An advanced course, dealing with selected problems in the history and present condition of education in the United States. The topic for 1909-10 was the History and Present Condition of Education in the Southern States.

2 units, 2d semester (CUBBERLEY)

9. City School Administration.—A study of some of the more important features and problems of city school administration, with a view to the establishment of principles. Open to advanced students, and intended primarily for those preparing for administrative work. [Not given in 1909-10.] (CUBBERLEY)

10. State School Administration.—A study of the educational principles underlying the proper administration of school systems in states and counties, and involving a comparative study of the school laws and school systems of the various American States. The course includes a study of such topics as Federal and State policy, forms of control, revenue and its apportionment, the State and the teacher, the State and the child, private and sectarian education, and State oversight and control. Open to third-year students.

3 units, both semesters (CUBBERLEY)

11. Statistical Method.—The theory of statistical work and the application of statistical method to the study of typical problems in the different fields of education. [Not given in 1909-10.]

(CUBBERLEY)

12. Foreign School Systems.—A comparative study of the more important foreign school systems, their policy of organization, ideals of work, methods of instruction, training of teachers, courses of study, statistics, and recent reforms. Education 3 should precede this course.

3 units, 1st semester (BERGSTRÖM)

13. Logic of Education.—A study of the significance for education of the theory of knowledge and the psychology of thinking. Herbartian "General Method" will be reviewed. Open to students who have taken elementary work in psychology or logic.

2 units, both semesters (DAVIDSON)

14. Social Phases of Education.—The course treats of the bearing on education of selected topics in social psychology, such as the individual and society, suggestion and choice, custom, tradition, imitation, and play. The course should be preceded by elementary work in psychology.

2 units, 1st semester (DAVIDSON)

15. Moral Education.—A study of the important ethical facts and principles underlying education. The course presupposes elementary work in psychology or ethics. [Not given in 1909-10.]

2 units, 1st semester (DAVIDSON)

16. Educational Theory: Advanced Course.—The course deals with phases of biology and psychology more directly concerned in education. Topic for 1908-09 and 1909-10, Recapitulation. The course presupposes elementary work in psychology, bionomics, and the nervous system.

2 units, both semesters (DAVIDSON)

17. The Curriculum.—A discussion of the relative importance of the historical, social, and psychological factors concerned in the formulation of the school and college curriculum. The topic for the first semester of 1909-10 was "Industrial Education in Relation to Child Labor, Juvenile Delinquency, and Compulsory Attendance," and for the second semester, "The Boys' Club Movement, Student Activities, and Organized Play." Open to supervisors, teachers, and students on consultation with the instructor. Either semester may be taken separately.

2 units, both semesters (DAVIDSON)

18. The Training of Teachers.—This course deals with the organization of normal schools and the professional preparation of

teachers, and is primarily intended for those entering on the work of training and supervising teachers.

2 units, 2d semester (DAILEY)

19. Pedagogical Seminary.—A study of special problems in educational psychology, school hygiene, or comparative pedagogy. The topic considered during the first semester was "Adolescence," and during the second semester, "Individual Differences in Children."

2 units, both semesters (BERGSTRÖM, BENTLEY)

20. Thesis Work.—In certain courses, students may be given an additional hour of credit on presentation of a satisfactory thesis on an assigned topic embodying the results of independent work. The consent of the instructor is necessary before registering.

1 unit, both semesters

21. Special Courses.—Special work in independent research will be provided for students prepared to do advanced work, the nature of the investigation being determined by the student's preparation and needs. Such work will include studies in administration, educational history, and the curriculum. (BERGSTRÖM, CUBBERLEY, DAVIDSON)

22. Practice in Teaching.—Actual practice in the handling of classes and the giving of instruction, with accompanying conferences, is now required of all inexperienced candidates for the High School Teacher's Certificate. This work may be taken at the San Jose State Normal School, which makes special arrangements for the graduates of this University, or at any other California State Normal School. Hours for teaching and conferences must be arranged with the Normal School. Intended for graduate students only.

4 units, either semester (DAILEY, EVENDEN)

23. Journal Club.—Regular meetings of instructors and advanced students for the discussion of new books and current literature. By arrangement. 1 unit, for the year (CUBBERLEY)

COURSES IN OTHER DEPARTMENTS

The following special Teachers' Courses in other departments are recommended to students preparing to teach. Such courses are usually necessary for the departmental recommendation, but do not count again as a part of the required units of Education.

a. Teachers' Course in Greek.—[See Department of Greek.]

b. Teachers' Course in Latin.—[See Department of Latin.]

c. Teachers' Course in German.—[See Department of Germanic Languages.]

d. Teachers' Course in French.—[See Department of Romanic Languages.]

e. Teachers' Course in English.—[See Department of English.]

f. Teachers' Course in History.—[See Department of History.]

g. Teachers' Course in Drawing.—[See Department of Drawing.]

h. Teachers' Course in Elementary Physics.—[See Department of Physics.]

HISTORY

Ephraim Douglass Adams, Arley Barthlow Show, Herbert Eugene Bolton, Professors.

Edward Benjamin Krehbiel, Associate Professor.

†Henry Lewin Cannon, Payson Jackson Treat, Assistant Professors.

Percy Alvin Martin, Sedley Lynch Ware, Instructors.

The Teacher's Recommendation.—To obtain a Teacher's Recommendation in History the applicant must have completed, in a manner acceptable to the Department, three of the courses 3, 4 (or 11), 5, and 7, one advanced course (throughout one year), and the Teachers' Course in History.

1. Historical Training Course.—A practical course in the finding and handling of historical material. Required of first-year History majors. 1 unit, both semesters (Martin)

[History of Greece.—See Greek 10.]

[History of Rome.—See Latin 29.]

3a. The Early Middle Ages, 476-1095.—A general course, open to all students who have had one year in ancient history, or a satisfactory equivalent. 3 units, 1st semester (Show)

3b. The Later Middle Ages, 1095-1492.—A continuation of course 3*a*. Open to all students who had have course 3*a*, or a satisfactory equivalent. 3 units, 2d semester (Show)

4a. English History to 1485.—General outline course, open to first-year students. 3 units, 1st semester (Ware)

4b. English History after 1485.—A continuation of course 4*a*. 3 units, 2d semester (Ware)

†Absent on leave, 1909-10.

5a. Modern European History, 1500-1715.—A general outline course, open to students who have had courses 3*a* and 3*b*, or a satisfactory equivalent. 2 units, 1st semester (KREHBIEL)

5b. Modern European History, 1715-1900.—A continuation of course 5*a*. 2 units, 2d semester (KREHBIEL)

6. American Colonial and Revolutionary History.—Not open to first-year students. [Not given in 1909-10.]
2 units, both semesters (———)

7. United States History since 1815.—Open to students who have taken courses 4*a* and 4*b*, or a satisfactory equivalent.
2 units, both semesters (ADAMS)

8. Westward Expansion and the Influence of the West.—A study of the westward movement from the Atlantic seaboard to the Pacific, and of the influence of the West upon national and international affairs at different stages of advance. Open to History majors who have had one other course in American history and to all but first-year students of other departments.
3 units, both semesters (BOLTON)

9a. The Far East.—An account of the relations between Western nations and the peoples of Eastern Asia. The history of the Portuguese, Dutch, British, and French possessions in the Far East. Not open to first-year students. 3 units, 1st semester (TREAT)

9b. The Far East.—China, Japan, the Philippines. A continuation of course 9*a*. 3 units, 2d semester (TREAT)

11. English Constitutional History.—Open to students who have taken courses 4*a* and 4*b*, or a satisfactory equivalent. [Not given in 1909-10.] 2 units, both semesters (CANNON)

12. History of Germany.—General outline course, not open to first-year students. 3 units, both semesters (MARTIN)

12a. History of France.—General outline course, not open to first-year students. 2 units, both semesters (MARTIN)

13a. The Ancient Church.—A general course in Church History from the Apostolic Age to Gregory the Great (A. D. 1-590), with special reference to its connection with the general movements of the age. Open to all except first-year students.
2 units, 1st semester (SHOW)

13b. The Mediaeval Church.—A continuation of course 13*a*, to the end of the Crusades and the beginning of the church reform movement. 2 units, 2d semester (SHOW)

14. Early Germanic Institutions.—From the earliest times to the close of the migrations. Lectures, recitations, and reports. Ability to read German desirable. Not open to first- and second-year students.

2 units, 1st semester (SHOW)

15a. The French Revolution and Napoleon.—A lecture course Outside readings and reports. Open to students who have had courses 5*a* and 5*b*. 2 units, 1st semester (KREHBIEL)

15b. Europe in the Nineteenth Century.—A continuation of the preceding course. 2 units, 2d semester (KREHBIEL)

16. Teachers' Course.—Lectures, recitations, and practice covering the topics in history customarily taught in preparatory schools.

2 units, 2d semester (SHOW)

18a. American and English Relations During the Civil War.—Use of British and American documentary material. Open to third-year students who have taken general courses in English and American history. 3 units, 1st semester (ADAMS)

18b. American and English Relations During the Civil War.—A continuation of course 18*a*, with study of magazines, papers, and non-political writings of the period.

3 units, 2d semester (ADAMS)

19. The Anglo-American Southwest.—Special portions of the field will be emphasized each year. Open to students who have had course 8, and to others by special permission.

2 units, both semesters (BOLTON)

21. Tropical Colonization in the Far East.—A study of the present methods of the English, Dutch, French, German, and American peoples in managing tropical dependencies in the Far East. Open to students who have taken courses 9*a* and 9*b*.

2 units, 1st semester (TREAT)

22. History of Australasia.—An account of British colonization in Australia and New Zealand to the present time. Open to students who have taken courses 9*a* and 9*b*.

2 units, 2d semester (TREAT)

ADVANCED COURSES

Intended primarily for graduate students, but open to advanced undergraduates, with permission of their instructors.

27. Painting of the Italian Renaissance.—A practical study of one or more great Renaissance artists. Subjects for 1909-10, "Botti-

celli" and "Correggio." Ability to read German and French is desirable.
1 unit, each semester (SHOW)

28. The Spanish Southwest.—A seminary course on selected portions of the field, based largely on a study of materials from foreign archives. Open to students who have had course 19, and to others of suitable preparation. A reading knowledge of Spanish is requisite. Intended primarily for graduates.
2 units, both semesters. (BOLTON)

29. English Constitutional History.—The subject in 1908-09 was "Magna Charta." [Not given in 1909-10.)
2 units, both semesters (CANNON)

30. The Renaissance in Italy.—Reading ability in French and German desirable. 2 units, both semesters (MARTIN)

31. American Diplomatic History since 1815.—Open to students who have had course 18, and to others by special permission.
2 units, both semesters (ADAMS)

32. The Spread of Protestantism in the Sixteenth Century.—A study of the sources. 2 units, both semesters (KREHBIEL)

35. Seminary in American-European Relations in Nineteenth Century.—Assignment of topic to each student and thesis required. 2 units, both semesters (ADAMS)

36. The Philippines under Spain.—
2 units, both semesters (TREAT)

37. Seminary in United States Constitutional History.—
2 units, both semesters (WARE)

ECONOMICS AND SOCIAL SCIENCE

ALLYN ABBOTT YOUNG, BURT ESTES HOWARD, Professors.
†THORSTEIN VEBLEN, ALBERT CONSER WHITAKER, Associate Professors.
HARRY ALVIN MILLIS, JAMES MARVIN MOTLEY, Assistant Professors.
IRA BROWN CROSS, Acting Instructor.

The courses offered by the Department of Economics and Social Science fall into two general groups. The elementary courses (1-13) are designed for the general students as well as for those specializing in the department, and include discussions of the more important contem-

†Resigned December, 1909.

porary economic and social problems—the understanding of which is believed to be a condition of good citizenship. The advanced and graduate courses offer to properly prepared students opportunities for the intensive study of special problems and for training in the methods of investigation used by economic science.

While no attempt is made to offer technical training in business methods, students looking forward to a business career will find courses 1, 4, 5, 6, 8, 10, and 11 valuable as affording a survey of important business institutions and relations. An endeavor is made, however, to render some of the courses offered by the department of direct technical value to students planning to enter the government service, or to engage in the work of public or private institutions for social betterment.

1. Elements of Economics.—A descriptive course, constituting an introduction to the subject. Must precede all other courses in the department. Two lecture hours and one quiz hour each week.

3 units, both semesters (YOUNG, CROSS)

2. Principles of Economics.—An intensive study of the principles of economics as developed in course 1. Required of Economics majors.

2 units, 2d semester (MILLIS)

4. Money and Banking.—Forms and laws of money; the money question. Credit and banking; the money market and foreign exchanges.

3 units, both semesters (WHITAKER)

5. Railway Transportation.—The present American railway system, railway finance, railway statistics, theory of rates, methods of public control in Europe, Australasia, and America.

3 units, 1st semester (YOUNG)

6. The Corporation and Trust Problem.—Elementary survey of corporation law; history of corporations and corporate combinations, pools and trusts, in relation to public policy; present tendencies in legislative control.

2 units, both semesters (WHITAKER)

8. Public Finance.—A general course dealing chiefly with the principles underlying public expenditures, revenues, debts, and financial administration.

3 units, 1st semester (MILLIS)

9. Social Statistics.—A study of the structure and movement of the population, with special reference to the methods and results of modern vital statistics. [Not given in 1909-10.]

3 units, 2d semester (YOUNG)

10. The Labor Problem.—The modern industrial system, wage system, collective bargaining, and other features of trade unionism, strikes, boycotts and lock-outs, arbitration and conciliation.

3 units, 2d semester (MILLIS)

10a. Immigration and Race Problems.—A study of the social and economic problems resulting from the mingling of races in the United States. [Not given in 1909-10.]

3 units, 2d semester (MILLIS)

11. Labor Legislation and Economic Reform.—The growth and characteristics of labor legislation; the bearing of important legal decisions with regard to labor; discussions of wages, and of certain economic reform measures. 2 units, both semesters (MOTLEY)

12. Social Economics.—A general survey of the leading economic, social, and individual causes of social disorder and poverty; methods and principles of modern relief policies; specific social problems; social legislation and other current movements for social betterment. 3 units, both semesters (MOTLEY)

13. Socialism.—The history of socialism and allied social movements, together with an analysis of socialistic doctrines.

3 units, 1st semester (CROSS)

14. Economic History.—The economic and social history of England. 3 units, 2d semester (CROSS)

ADVANCED AND GRADUATE COURSES

15. American Methods of Taxation.—An intensive study of the federal and state taxes, including the customs and internal revenue duties, "direct" income, business and inheritance taxes, the general property and corporation taxes. Should be preceded by Economics 8.

3 units, 2d semester (MILLIS)

16. History of Political Economy.—A survey of the growth of economic theories and opinions in modern times, together with an inquiry into the character and methods of current economic science. Prerequisites: courses 1 and 2.

3 units, both semesters (VEBLEN, YOUNG)

17. Value and Income.—A study of the factors governing interest, rents, wages, and profit, preceded by a review of the theory of value. 2 units, both semesters (WHITAKER)

18. Seminary in Social Economics.—Certain social institutions, relief measures, and labor problems will be studied critically, the object

being to familiarize the student with available materials and to acquaint him with methods of social research.

2 units, both semesters (MOTLEY)

19. Economic Factors in Civilization.—The bearing of economic motives and conditions upon the development of culture, art, religion, science, and the institutions of domestic and civic life. Students admitted only after consultation with instructor.

3 units, 1st semester (VEBLEN)

20. Seminary in Statistics.—Investigation of selected social and economic problems with special reference to the use of the statistical method. [Given in 1908-09 and alternate years.]

2 units, both semesters (YOUNG)

21. Seminary in Railway and Corporation Finance.—Study of the financial policies of selected corporations, with special reference to the relation of such policies to the public interest. Prerequisites: courses 5*a* and 6. [Given in 1909-10 and alternate years.]

2 units, both semesters (YOUNG)

23. Economic Conference.—Bi-weekly meetings of instructors and graduate students for discussion of current economic literature and the presentation of the results of original research.

POLITICAL SCIENCE

30. Comparative Federal Government.—A comparative study of the governments of Germany, Switzerland, and the United States. Open to students who have taken History 7, History 5*b*, and History 12, or their equivalents. A reading knowledge of German is desirable but not required. 3 units, both semesters (HOWARD)

31. American Politics.—An investigation into the organization and administrative functions of the government, the competence of its courts, problems touching citizenship, etc. Open to students who have taken History 7 or History 19, or an equivalent.

3 units, 1st semester (HOWARD)

32. Municipal Government.—Including a critical study of various municipal charters and forms of city government, together with an investigation of certain problems in municipal administration.

3 units, 2d semester (HOWARD)

34. Seminary in Political Science.—An examination of the basal theories underlying political institutions. Open only to students who

have a good knowledge of general and constitutional history, and who read German or French readily.

2 units, both semesters (Howard)

LAW

Charles Henry Huberich*, Frederic Campbell Woodward, Arthur Martin Cathcart, Wesley Newcomb Hohfeld, Professors.

Howard L. Smith, Acting Professor.†

Charles Andrews Huston, Joseph Walter Bingham, Associate Professors.

John Slater Partridge, Lecturer.

The purpose of the Department is to provide a thorough legal education for students who are fitted by their maturity and their previous academic training to pursue professional study under university methods of instruction. The curriculum covers three academic years and constitutes an adequate preparation for the practice of law in any English-speaking jurisdiction. Elective courses in Code Pleading and in California Practice are offered, and graduates of this school are admitted to the California Bar without examination. A comprehensive group of courses in Public Law, of value not only to the law student but to the student who contemplates entering the diplomatic, consular or other government service, is a feature of the curriculum.

Only college graduates and students who have completed three years of work in the Pre-legal curriculum of this University (see page 10), or its equivalent, are admitted as regular students. Students in the Pre-legal curriculum are permitted to count one year of law study toward the degree of Bachelor of Arts, and are thereby enabled to complete the Law curriculum in two years after graduation. Under certain conditions persons over twenty-one years of age who have had experience in business, or who evince uncommon ability, may be admitted as special students, not candidates for a degree.

The Library

The Law Library contains over 14,000 volumes, including complete sets of the English, Irish, Scotch, and Canadian reports, the reports of all the Federal courts, a practically complete set of the reports of the

*Absent on leave, 1909-10.

†During 1909-10.

American States and of the Canadian Provinces, the National Reporter system, the standard collections of cases, including the American Decisions, American Reports, American State Reports, Lawyers' Reports Annotated, and American and English Railway Cases, text-books, encyclopedias, digests, and other works of reference, and sets of the leading American, British, and Continental legal periodicals.

Pre-legal Curriculum

For undergraduate students who enter with the intention of preparing for the study of law, a Pre-legal curriculum is offered by the University under the direction of the Faculty of the Department. This curriculum ordinarily occupies four years and requires that the student obtain 120 units of university credit. The equivalent of three years (90 units of credit) is given to general culture studies (for instruction in which no tuition is charged) and of one year (30 units of credit) to the professional study of law.

The 120 unit-hours of work usually are apportioned as follows: To the first and second years, 30 units of general culture studies each; to the third year, 24 units of general culture studies and 6 units in law; to the fourth year, 6 units of general culture studies and 24 units in law. The 90 unit-hours of general culture studies may be taken in three years, and the fourth year be devoted entirely to law study.

A pre-legal student is expected to take Introduction to the Study of Law in his second year, Contracts in his third year, and the remaining courses of the first year of the professional curriculum in his fourth year.

In electing courses in general culture subjects it is expected that 54 units will be applied as follows: To English, 10, which shall include courses A, 2, and 24; to a modern language other than English, 6; to Latin or Greek, 4 (8 additional units in a modern language other than English may be substituted); to History, 15; to Economics, 13; to Mathematics, Logic, Chemistry, or Physics, 6.

Students who satisfactorily complete the Pre-legal curriculum are granted the degree of Bachelor of Arts by the University, and by reason of having had one year of law study as undergraduates may satisfy the requirements for the degree of Juris Doctor by two years of graduate law study.

Admission to the Professional Curriculum

Admission to the Professional curriculum in law is granted to students duly enrolled in the University, as follows:

1. To students who have received the degree of Bachelor of Arts, or an equivalent degree, from this University or some other institution of recognized collegiate rank.

2. To students who have received credit for at least eighty unit-hours (substantially three years) in the Pre-legal curriculum offered by this University, or the substantial equivalent thereof in some other institution of recognized collegiate rank. Students in such Pre-legal curriculum, however, who have received credit for forty-five unit-hours, will be permitted to take the course in the Law of Contracts.

3. In the discretion of the Faculty of Law, to students over twenty-one years of age, who cannot meet the foregoing requirements, but who have had experience in business or who evince uncommon ability. Such special law students will be afforded all the privileges of the Department, and will be given a certificate in lieu of the degree awarded to regular students.

Admission to Advanced Standing in Law

By special vote of the Faculty of Law credit may be given without examination for work satisfactorily completed at other law schools, but in no case will credit be given for work not done in residence at an approved law school. Examinations for advanced standing in law, if required, may be taken in places other than at the University. Applications for such examinations should be made not later than April 1, for the May examinations, and not later than November 15, for the December examinations. A fee of five dollars per course is charged for examinations not taken at the University.

Professional Curriculum

The work of the first year in the professional curriculum is required and consists of the following courses: Contracts, Criminal Law, Torts, Introduction to Property, Equity I, and Agency.

The work of the second and third years in the professional curriculum is elective, but the following courses may not be taken before a student has completed the work of two full years in the Department. Administrative Law, Conflict of Laws, Private Corporations, Municipal Corporations, Evidence, and California Practice.

Courses of Instruction

The courses offered in the Law Department, roughly grouped for purposes of convenience according to the nature and analogies of the subject matter, are as follows:

A. Elements of Business Law.—Contracts; sale of goods; bailments; insurance; suretyship and guaranty; bills of exchange, promissory notes, and checks; agency, master and servant; partnerships, corporations; property rights; wills and deeds, liens, pledges, and mortgages; landlord and tenant; sale and purchase of realty; the relations between trustee and cestui. Not open to law students or pre-legal students. Open to all other students having 30 units' credit. Textbook: Huffcut's Elements of Business Law. Lectures, recitations, and assigned reading. [Not given in 1909-10.] 2 units, both semesters

(Huberich, Woodward, Cathcart, Hohfeld, Bingham)

1. **Introduction to the Study of Law.**—*Part I.* Nature, origin, and evolution of law; sources of law; sanctions of law; legal rights and duties; classification of law; historical sketch of English and American law. *Part II.* The methods of legal study; the use of reports, digests, encyclopedias, and treatises; practice in the analysis of cases and in the preparation of abstracts and briefs. Open to students having 25 units of credit. Selected Cases.

2 units, 2d semester (Huston)

2. **Criminal Law.**—Nature and sources of criminal law; crime as an act; attempts; criminal intent; circumstances affecting illegality of act; specific offenses; crimes against the person, larceny and allied offenses, crimes against the dwelling-house, conspiracy. Open to pre-legal students having 80 units of credit, and to all law students. Beale, Cases on Criminal Law (2d ed.). 4 units, 1st semester (Smith)

3. **Constitutional Law.**—Nature and sources of American constitutional law; adoption and amendment of constitutions; separation of powers; power of judiciary to declare acts of the legislative and executive branches of government unconstitutional; citizenship; privileges and immunities of citizenship; due process of law; police power; eminent domain; taxation; ex post facto and retroactive laws; laws impairing the obligation of contracts; regulation of commerce; money; war; government of territories. Open to second- and third-year law students and to well-prepared fourth-year students in history, economics, and political science. Thayer, Cases on Constitutional Law.

3 units, both semesters (Smith)

4. **Administrative Law and Public Officers.**—Administrative regulations; jurisdiction, discretion, adjudication; enforcement of orders; habeas corpus; mandamus; certiorari; equitable jurisdiction in public law. Open to third-year law students. [Not given in 1909-10.]

Goodnow, Cases on the Law of Officers, and Goodnow, Cases on Government. 3 units, 1st semester (HUSTON)

5. **Municipal Corporations.**—General nature; corporate capacity; self government; creation, annexation, division, dissolution, succession; modes of action, ratification and curative acts; estoppel by recitals; municipal police power; local improvements and services, including special assessments; municipal property, especially public streets; municipal contracts; expenditure and donations; indebtedness and its constitutional limit; liability. Prerequisite: course 17. Open to third-year law students. Smith, Cases on Municipal Corporations.
2 units, 2d semester (HUSTON)

6. **International Law.**—Nature and sources of international law; territorial rights of states; territorial jurisdiction; jurisdiction on high seas; nationality; belligerency; neutrality. Open to second- and third-year law students, and to well-prepared fourth-year students, in history, economics, and political science. [Not given in 1909-10.] Scott, Cases on International Law. 4 units, 2d semester (HUBERICH)

7. **Conflict of Laws.**—Nature and force of foreign law; comity; jurisdiction over persons and things; jurisdiction of courts; creation of personal rights and of rights of property; torts and contracts; enforcement of rights. Open to third-year law students only. Beale, Cases on Conflict of Laws. 4 units, 1st semester (SMITH)

8. **Admiralty.**—Admiralty jurisdiction, basis; maritime contracts, torts, and crimes; maritime liens, ex contractu, ex delicto, priorities, discharge; bottomry and respondentia obligations; salvage; general average. Open to second- and third-year law students. [Not given in 1909-10.] Ames, Cases on Admiralty.
2 units, 1st semester (HUSTON)

9. **Roman Law.**—A study of the Institutes of Gaius and Justinian and of selected titles from the Digest, Code, and Novels. A reading knowledge of Latin and of either German or French will be required. Open to second- and third-year law students. [Not given in 1909-10.]
2 units, both semesters (HUBERICH)

10. **Persons.**—Marriage; promise to marry; marriage contract at common law and under statutes; rights of husband and wife in each other's property; status of married women; transactions between husband and wife; torts affecting marital relations; separation; divorce. Parent and child: custody; services and earnings; torts to children; torts by children; adoption; illegitimacy. Infancy: period of infancy; voidable acts; disaffirmance, ratification; contracts for necessaries;

obligations created or authorized by law; liability for tort; guardian and ward. Insanity. Drunkenness. Alienage. Open to second- and third-year law students. Woodruff, Cases on Domestic Relations (2d ed.). 2 units, 1st semester (WOODWARD)

11. Introduction to Property.—Distinction between real and personal property; acquisition of rights in personal property; gifts; bailment; lien; pledge. Real property: tenures; estates; seisin and conveyance; Statute of Uses; incidents of ownership in real property; fixtures; easements; covenants as to use; public rights; franchises; rents. Open to pre-legal students having 80 units of credit, and to all law students. Gray, Cases on Property, Vols. I and II (2d ed.). 3 units, both semesters (BINGHAM)

12. Title to Land.—Accretion; title by adverse possession, prescription; methods of transfer of interests in land at common law and under statutes; creation of interests in land by agreement or conveyance; interpretation of instruments of transfer; covenants running with the land; covenants for title; execution of deeds; fraudulent conveyances; recording. Open to second- and third-year law students. [Not given in 1909-10.] Gray, Cases on Property, Vol. III and part of Vol. VI (2d ed.). 4 units, 1st semester (BINGHAM)

13. Wills and Administration.—Acquisition of property on the death of former owner, escheat, descent, occupancy, gifts mortis causa; the making, revocation, and republication of wills, probate and administration, payment of legacies and distribution, ademption and lapse of legacies. Open to second- and third-year law students. Prerequisite: course 11. Gray, Cases on Property, Vol. IV (2d ed.) and selected cases. 4 units, 1st semester (BINGHAM)

14. Estates and Executory Interests.—Seisin and possession; tenure; estates in land; executory interests in land; uses and trusts; marital rights in property; cotenancy; interests in chattels and in choses in action. Open to second- and third-year law students. Prerequisites: courses 11 and 31. Selected cases and other readings. [Not given in 1909-10.] 2 units, 1st semester (BINGHAM)

15. Future Interests.—Vested and executory interests; construction of language creating future interests; powers; rule against perpetuities; provisions for forfeiture and restraints on alienation; the California law of future interests. Prerequisites: courses 11 and 14. Open to second- and third-year law students. [Not given in 1909-10.] Gray, Cases on Property, Vol. V and part of Vol. VI (2d ed.), and selected cases. 4 units, 2d semester (BINGHAM)

16. Water Rights and Irrigation Law.—A course in the intensive study of the law of water, with especial reference to water rights in the Western States. Open to second- and third-year law students. Selected cases and legislative enactments.

2 units, 2d semester (BINGHAM)

17. Mining Law.—A course on mining titles under the Federal mining acts, with especial reference to mining rights in the Western States and Alaska. Open to second- and third-year law students. Selected cases and legislative enactments.

2 units, 2d semester (BINGHAM)

18. Torts.—Trespass to person, to real property, and to personal property; excuses for trespass; conversion; legal cause; negligence; contributory and imputed negligence; plaintiff's illegal conduct as a defense; duties of land-owners; hazardous occupations; liability for animals; deceit; defamation, slander, libel, privilege, malice; malicious prosecution, criminal and civil; interference with social and business relations, inducing breaches of duty, fair and unfair competition, strikes, boycotts, business combinations. Open to pre-legal students having 80 units of credit, and to all law students. Cases on Torts: Ames, Vol. I (3d ed.); Smith, Vol. II (2d ed.).

5 units, 1st semester (CATHCART)

19. Quasi-Contracts.—Sources, extent, and nature of the obligation; distinctions between quasi-contract and pure contract, and between quasi-contract and tort; obligation arising from benefits conferred in the absence of contract; obligation arising from benefits conferred under a contract but without the receipt of an equivalent. Open to second- and third-year law students. [Not given in 1909-10.] Woodruff, Cases on Quasi-Contracts. 3 units, 2d semester (CATHCART)

20. Contracts.—Offer and acceptance; consideration; contracts under seal; contracts for the benefit of third persons; assignments; joint and several contracts; the Statute of Frauds; conditions; impossibility; illegality; discharge of contracts. Open to pre-legal students having 45 units of credit, and to all law students. Williston, Cases on Contracts.

4 units, 1st semester; 3 units, 2d semester (WOODWARD)

21. Bills and Notes.—This course considers all types of negotiable paper, and discusses in detail the law of bills of exchange, notes, and checks, including: formal requisites; acceptance; indorsement; transfer; extinguishment; obligation of parties; diligence; specialty character; the effect of the Negotiable Instruments Law. Open to

second- and third-year law students. [Not given in 1909-10.] Ames, Cases on Bills and Notes. 4 units, 2d semester (HUBERICH)

22. Sales.—Subject matter of sale; executory and executed sales; bills of lading and jus disponendi; seller's lien and right of stoppage in transitu; fraud; factors acts; warranty and remedies for breach of warranty; Statute of Frauds. Open to second- and third-year law students. Williston, Cases on Sales (2d ed.).

4 units, 2d semester (WOODWARD)

23. Agency.—Nature of relation; appointment; liabilities of principal for agent's torts, contracts, crimes; liabilities of agent; parties to writings; undisclosed principal doctrines; delegation of agency; termination; ratification. Prerequisites: first semester of courses 18 and 19. Open to pre-legal students having 80 units of credit and to all law students. Wambaugh, Cases on Agency.

4 units, 2d semester (HUSTON)

24. Partnership.—Nature of a partnership, its purposes, and members; creation of partnerships; nature of partner's interest; firm name and good will; mutual rights and duties of partners; actions between partners, at law and in equity; powers of partners; liability for acts of partners in contract and tort; general liability of partners; dissolution and notice; consequences of dissolution; dissolution agreements respecting debts; distribution of assets to creditors, and between partners; limited partnerships. Open to second- and third-year students. [Not given in 1909-10.] Gilmore, Cases on Partnership.

3 units, 1st semester (HUSTON)

25. Private Corporations.—Nature of a corporation and its relation to its stockholders; creation of a corporation; de facto corporations; stock subscriptions; promoters; interpretation of charters; implied powers; formalities of corporate contracts; dividends; transfer of stock; forfeiture of charters; contracts; powers and duties of directors; rights of stockholders; corporate liability for torts, crimes, and contempts; ultra vires transactions; rights and remedies of corporate creditors; preferences by corporations; stockholders' liability; intercorporate relations; purchase by a corporation of its own stock; dissolution of corporations; corporate receiverships; foreign corporations; limits of legislative control. Open to third-year law students only. Case-book to be announced.

4 units, 1st semester (HUSTON)

26. Public Service Companies and Carriers.—The nature, rights, and duties of public calling as exemplified by railway, telegraph,

telephone, gas, water, irrigation, and other public service companies. Common carriers of goods and persons; liability; limitation of liability; bills of lading; stoppage in transitu; connecting carriers; tickets; baggage, compensation and lien. Open to second- and third-year law students. Beale, Cases on Carriers (2d ed.); Wyman, Cases on Public Service Companies (2d ed.). 3 units, 2d semester (CATHCART)

27. **Bankruptcy.**—Jurisdiction of the United States and the States; who may be a bankrupt; who may be petitioning creditors; acts of bankruptcy; what property passes to the trustee; provable claims; protection; exemptions and discharge. Open to second- and third-year law students. [Not given in 1909-10.] Lectures and assigned reading. 10 lectures, 2d semester No credit (WOODWARD)

28. **Insurance.**—Marine, fire, and life insurance. Insurable interest in various kinds of policies; concealments; misrepresentations; warranties and other matters affecting the validity of the contract; amount of recovery; subrogation; waiver, estoppel, election; powers of agents; assignees and beneficiaries. Open to second- and third-year law students and to others by special permission. Wambaugh, Cases on Insurance. 3 units, 1st semester (HUSTON)

29. **Suretyship.**—Personal suretyship compared with real suretyship (mortgages, pledges, liens, etc.); suretyship obligations compared with insurance and indemnity obligations; guaranty and other forms of suretyship in relation to the Statute of Frauds; suretyship in transactions involving negotiable instruments; fidelity contracts and judicial bonds; surety's defenses due to original defects in his obligation or to its subsequent discharge; surety's right to subrogation, indemnity, contribution or exoneration; creditor's right to surety's securities. This course must ordinarily precede that on Mortgages. Open to second- and third-year law students. [Not given in 1909-10.] Ames, Cases on Suretyship. 3 units, 1st semester (BINGHAM)

30. **Mortgages.**—All forms of mortgage security, both real and chattel; essential elements of legal and equitable mortgages; legal and equitable rights, powers and remedies of mortgagor and mortgagee with respect to title, dower, curtesy, possession, rents and profits, waste, collateral agreements, foreclosure, redemption; priorities; marshalling; extension of mortgages; assignment of mortgages; discharge of mortgages. This course must ordinarily be preceded by that on Suretyship. Open to second- and third-year law students. [Not given in 1909-10.] Kirchwey, Cases on Mortgage.
3 units, 2d semester (HOHFELD)

31. **Equity I.**—Historical development of equity; relation between equitable rights and powers and legal rights and powers; general principles relating to jurisdiction, procedure and remedies; specific performance of contracts with special emphasis on the relations between vendors and purchasers of realty; introduction to mortgages; bills for an account; specific reparation and prevention of torts, including waste, trespass, nuisance, disturbance of easements, infringement of patents and copyrights, interference with business relations. Open to pre-legal students having 80 units of credit, and to all law students. Ames, Cases in Equity Jurisdiction, Vol. I.

4 units, 2d semester (HOHFELD)

32. **Equity II: Trusts.**—Trusts considered in comparison with other equitable and legal relations; nature and requisites of trusts with respect to consideration, subject-matter, the trustee, the *cestui que trust;* sufficiency of language in wills and deeds creating trusts; kinds of trusts: express, constructive, and resulting trusts, private and charitable trusts; transfer of the respective interests of trustee and *cestui que trust* by act of party and by marriage, death, etc.; rights and remedies of creditors of trustee and *cestui que trust;* priorities with respect to trusts and other equitable interests; resignation or removal of trustee; duties of trustee as to general execution of the trust and as to investment of the trust funds. Open to second- and third-year law students. Ames, Cases on Trusts (2d ed.); also selected cases. 2 units, both semesters (HOHFELD)

33. **Equity III.**—Interpleader; bills of peace and quia timet; cancellation of contract; clouds on title; perpetuation of testimony; rights of future enjoyment; reformation and rescission of contract; mistake, fraud, misrepresentation; duress and undue influence. Open to second- and third-year law students. [Not given in 1909-10.] Ames, Cases in Equity Jurisdiction, Vol. II.

2 units, 2d semester (HOHFELD)

34. **Damages.**—This course deals with the functions of court and jury in estimating damages; exemplary, liquidated, nominal, direct, and consequential damages; avoidable consequences; counsel fees; certainty, compensation, damages for non-pecuniary injuries; value; interest; and damages in certain actions of tort and contract. Open to second- and third-year law students. Beale, Cases on Damages (2d ed.). 2 units, 2d semester (CATHCART)

35. **Common Law Pleading.**—Common law actions; parties; the declaration; demurrers; traverses; confession and avoidance; duplicity;

departure; new assignment; motions based upon the pleadings. Open to second- and third-year law students. Ames, Cases on Pleading (1st ed.); also selected cases. 2 units, 1st semester (CATHCART)

36. Equity Pleading.—The suit in equity; parties; the form and requisites of the bill; pleas; the answer; exceptions to answer; the replication. Prerequisite: Course 35. Thompson, Cases on Equity Pleading and Practice. 1 unit, 1st semester (CATHCART)

37. Code Pleading.—Historical development of the reformed procedure; the single civil action; parties; the complaint; the answer; the reply; motions and demurrers. Prerequisite: course 35. Hinton, Cases on Code Pleading; also selected California cases.
2 units, 2d semester (CATHCART)

38. Evidence.—Respective functions of judge and jury; "law and fact"; presumptions; burden of proof; judicial notice; classification of evidence; relevancy as primary test of admissibility; principles and rules relating to the following: misleading or unimportant matters, character, admissions, confessions, hearsay, witnesses' opinions and expert testimony, real evidence, evidence relating to execution, contents and interpretation of writings; various rules of substantive law stated in terms of "parol evidence rule"; competency of witnesses; privilege of witnesses; impeachment and confirmation of witnesses; examination of witnesses. A few extra sessions will be held for the purpose of affording actual practice in the presentation of evidence and the examination of witnesses. Open to third-year law students only. Thayer, Cases on Evidence (2d ed.); also selected cases.
4 units, 1st semester; 2 units, 2d semester (HOHFELD)

39. California Practice.—Organization and jurisdiction of courts; court records and files; proceedings prior to judgment, including: service and return of summons and motions relating thereto, appearances, provisional remedies, such as attachment, arrest, etc., lis pendens, the trial, exceptions and findings, verdict; the judgment, its entry and satisfaction; proceedings subsequent to judgment, including: stay of execution, costs, execution, motion for new trial, appellate proceedings; probate and administration proceedings; special proceedings, including writs of certiorari, mandamus, and prohibition; introduction to jurisdiction and procedure of Federal courts. Prerequisites: courses 35, 36, and 37. Open to third-year law students only. California Code of Civil Procedure; also selected California cases.
2 units, 2d semester (PARTRIDGE)

Special Lectures

In addition to the regular professional courses, a number of special lectures, most of them of a practical character, are given each year by experienced lawyers of the California Bar.

Instruction in Practice

A special effort is made to impart to the student a thorough knowledge of the rules of procedure and practice, and to enable him to acquire a creditable degree of skill and facility in the application of such rules to conditions of actual litigation. To these ends, courses are offered in Common Law, Equity and Code Pleading, and in California Practice. In the last-mentioned course, particularly, the student is afforded practical experience in the commencement of actions, the preparation of pleadings, the trial of issues of fact, and the argument of questions of law. Likewise, in connection with the course in Evidence, extra sessions of the class are held for the purpose of exemplifying the actual methods of introducing evidence and examining witnesses.

Moot Courts

Three law clubs—Bench and Bar, Abbott's Inn, and Arcade—have been organized by the students for the purpose of holding moot courts for the argument of questions of law. This work is voluntary, but is carried on with the advice and assistance of the Faculty. Moot courts are also conducted by the local chapters of the Phi Delta Phi and Delta Chi fraternities.

Public Speaking

Courses in the principles of vocal expression in public speaking, and in oral debate are offered by the University and may be elected by students in the Law School. Law students are eligible to membership in the two debating societies of the University. They may compete for the Carnot Debate medal, and for positions on the University Intercollegiate Debate team.

Admission to the Bar

It is provided by Section 280b of the California Code of Civil Procedure, that any person producing evidence of having satisfactorily completed the three years' course of law study prescribed by this Department shall be entitled to a license to practice law in all the courts of the State, subject to the right of the chief justice of the Supreme Court to order an examination, as in ordinary cases of applicants without such evidence. The certificate required by the statute will be

issued, upon request, to any regular or special student who shall have received an aggregate of 75 units of credit in the Law School, including credit in all of the Pleading and Practice courses, numbers 35, 36, 37 and 39, and excluding credit in the course in Introduction to the Study of Law, and who, in addition thereto, shall have received credit in the course in English Composition (English 2).

Fees and Expenses

For professional law courses tuition fees are charged as follows: To students registering for thirteen or more units in law in any semester, twenty-five dollars per semester; to students registering for less than thirteen units in law in any semester, two dollars per unit per semester.

Graduate and undergraduate students are charged a registration fee of ten dollars per semester; special students, fifteen dollars per semester; but these registration fees are waived in the case of bona fide residents of California who have been resident in the State at least one year immediately preceding registration.

A syllabus fee of fifty cents per semester is charged in all law courses except Introduction to the Study of Law and California Practice. In Introduction to the Study of Law the syllabus fee is one dollar; in California Practice, three dollars.

The cost of text-books in the law courses will average twenty-five dollars per year for the three years of the professional curriculum.

GRAPHIC ARTS

Arthur Bridgman Clark, Associate Professor.
Robert Bartholow Harshe, Assistant Professor.
Chloe Lesley Starks, Instructor.

The Department aims to meet the needs of three classes of students: students who wish training in artistic perception and graphic expression for its general culture value; students who wish to begin professional art study while receiving other university training; and technical students to whom knowledge of representative drawing is essential.

Course 1 or its equivalent must precede all other courses excepting courses 6, 8, and 9. Technical courses may receive credit a second time when continued with sufficient skill.

For students making Graphic Arts their major study the following is an average programme: Elementary still life (4 units); Cast drawing

(3 units); Organic Form (3 units); Perspective (2 units). Total, 13 units the first year.

Design (8 units); Head drawing or Landscape (5 units); Lectures (2 units). Total, 15 units the second year.

Life (5 units); Color (5 units); Lectures (2 units); Teachers' course (3 units); Handicraft (2 units). Total, 17 units the third year.

Illustration or Landscape (10 units); Design (3 units); Handicraft (2 units). Total, 15 units the fourth year.

The Teacher's Recommendation.—The minimum requirement for the High School recommendation in Drawing is courses 1, 2 or 4, and 7 (3 units each), also 10 and 11. Total, 18 units.

1. **Elementary Drawing.**—Introductory course; still-life in charcoal and color. Open to all students.

2 to 4 units, either semester (STARKS)

2. **Drawing of the Head.**—From the cast.

3 to 5 units, either semester (HARSHE)

3. **Drawing of the Head.**—A continuation of course 2 from life. Open to second-year students.

3 to 5 units, either semester (HARSHE)

4. **Color.**—Still-life painting in oils or water-colors. Open to students with six units of drawing.

2 to 5 units, either semester (HARSHE)

5. **Landscape.**—Chiefly outdoor work, but supplemented during the colder weather by study from photographs. The pen, charcoal, or brush are used in accordance with the capacity and needs of each student. 3 units, 1st semester (CLARK)

6. **Lectures.**—Ideals and processes in pictorial and applied art. Open to all students.

2 units, 1st semester or both semesters (CLARK)

7. **Organic Form.**—Drawing shells, leaf sprays, animal forms, and landscape with reference to decorative elements. The course is conducted primarily as a preparation for design.

2 to 3 units, 2d semester (CLARK)

8. **Scientific Perspective.**—A series of problems involving the mathematical principles of perspective, and the application of these principles to actual buildings and objects. [Course 8 is offered in alternate years; will be given in 1910-11.]

2 units, 2d semester (CLARK)

9. **Science Drawing.**—A course designed to assist students in scientific illustration. It includes the drawing of simple scientific sub-

jects in pen outline, line and stipple shading, wash, and line and wash. Especial attention will be paid to the needs of individual students. Open to science students on advice.

2 units, either semester (STARKS)

10. Teachers' Course.—For intending teachers and supervisors of drawing. Consisting of lectures upon methods and aims in school curricula and in the practical work of preparing courses of study. Open to advanced students only. [Offered in alternate years; given in 1909-10.] 2 units, 2d semester (HARSHE)

11. Design.—Exercises in the principles of abstract design, decorative design, and structural design. Application of the principles to house planning, interior household fittings, and the handicrafts generally. 3 to 5 units, both semesters (CLARK)

12. Illustrating.—Practice in design and appreciation of the book arts, including title pages, book plates, borders, announcements, head and tail pieces, and illustrations. Must be preceded by course 3.

2 to 3 units, both semesters (HARSHE)

13. Handicraft.—Exercises in textiles, wood carving, decorative metal work, etc. To follow course 11.

2 units, either semester (HARSHE)

MATHEMATICS

ROBERT EDGAR ALLARDICE, RUFUS LOT GREEN, Professors.
HANS FREDERIK BLICHFELDT, Associate Professor.

The courses in this department have been arranged to meet the wants of two classes of students—students whose major subject is Mathematics, and students who, while taking their major in some other department, desire to include some Mathematics in their course. Students in Engineering are provided for in the Department of Applied Mathematics.

For students whose major subject is Mathematics the following programme of work is recommended: In the first year, courses 3 and 4: in the second year, courses 9, and 10 or 21; in the third year, courses 11, 12, and 15; while the work during the fourth year and for graduate students may be selected from the remaining courses, and from the Department of Applied Mathematics. The advanced courses will, for the most part, be given once in two or once in three years, and it is hoped that the advanced students will thus have the opportunity of studying the more important branches of modern mathematics.

Students whose major subject is Mathematics are recommended to begin the study of either French or of German in their freshman year.

Students who desire to take one or more years of Mathematics as a part of a liberal training are recommended to begin their work in this Department with one or more of the courses 1, 2, 3, 6, and 7.

The Teacher's Recommendation.—For the High School recommendation in Mathematics the following courses are required: 1, 2, 3, 4, 9, and 10 or 6.

1. **Trigonometry.**—Elementary course, with applications involving logarithmic calculation. 2 units, 1st semester (BLICHFELDT)

2. **Solid Geometry.**—Elementary course.
2 units, 2d semester (BLICHFELDT)

3. **Algebra.**—Fundamental laws, degree, symmetry, indeterminate coefficients, remainder theorems, factors, complex numbers, introduction to theory of equations, progressions, permutations and combinations. Presupposes entrance credit in Elementary Algebra.
5 units, 1st semester (GREEN)

4. **Co-ordinate Geometry.**—An elementary course in the analytic geometry of the conic sections, including the discussion of the general equation of the second degree. Presupposes course 3.
5 units, 2d semester (GREEN)

[Students making Mathematics their major subject should take courses 3 and 4 as the first year's work, and those who have not had Trigonometry should also take course 1.]

6. **Plane Geometry.**—This course includes a rapid revision of elementary geometry, together with additional theorems and references to modern theories. It is recommended to those who expect to teach mathematics, and presupposes entrance credit in plane geometry.
2 units, both semesters (ALLARDICE)

7. **General Course.**—An elementary course, including topics in algebra, trigonometry, co-ordinate geometry, and calculus.
3 units, both semesters (BLICHFELDT)

9. **Differential and Integral Calculus.**—Lectures on the Differential and Integral Calculus, with applications to the theory of plane curves, on the lines of Williamson's treatises.
3 units, both semesters (ALLARDICE)

10. **Advanced Co-ordinate Geometry.**—A continuation of course 4, including the elements of the Theory of Determinants.
2 units, both semesters (GREEN)

11. Advanced Calculus.—A continuation of course 9.
3 units, 1st semester (ALLARDICE)

12. Theory of Functions.—Elementary course.
3 units, 2d semester (ALLARDICE)

13. Non-Euclidean Geometry.—Presupposes a course in Calculus.
2 units, 2d semester (BLICHFELDT)

15. Differential Equations.—
3 units, both semesters (BLICHFELDT)

16. Theory of Functions.—Advanced course.
3 units, both semesters (ALLARDICE)

17. Theory of Curves.—[Not given in 1909-10.]
2 units, both semesters (ALLARDICE)

18. Insurance—An introduction to the simpler parts of the Theory of Probabilities; the principles and problems of insurance; the mathematical principles involved in actuarial science, with practice in the computation and use of tables. [Not given in 1909-10.]
3 units, 1st semester (GREEN)

19. Reading Course.—In this course the students will read French and German text-books under the direction of the instructors. [Not given in 1909-10.]
2 units, both semesters (ALLARDICE, BLICHFELDT)

20. Theory of Groups.—[Not given in 1909-10.]
3 units, 2d semester (MANNING)

21. Projective Geometry.—
2 units, both semesters (ALLARDICE)

22. Theory of Numbers.—[Not given in 1909-10.]
2 units, 1st semester (BLICHFELDT)

APPLIED MATHEMATICS

LEANDER MILLER HOSKINS, Professor.

HALCOTT CADWALADER MORENO, SIDNEY DEAN TOWNLEY, Associate Professors.

†WILLIAM ALBERT MANNING, ERNEST WILLIAM PONZER, Assistant Professors.

JESSE DWIGHT SUTER, Instructor.

Under Applied Mathematics are included the courses in mathematics which are required of students in Engineering. The aim is to make

†Absent on leave, 1909-10.

these courses practical in the sense of furnishing thorough drill on fundamental principles and much practice in their application. Emphasis is laid upon accuracy and system in the solution of numerical problems. Students whose training in arithmetical work has been deficient, or who are otherwise inadequately prepared, or who lack aptitude for mathematical study, can not pursue these courses successfully.

Courses A and B are the equivalents of the corresponding entrance subjects (5 and 6), and are prerequisites to the regular first-year work.* Course 1 embraces the regular first year-work, and courses 2 and 3 the regular second-year work.

A. Solid Geometry.—This presupposes Plane Geometry, and is not required of those having entrance credit in Solid Geometry (subject 5.) 2 units, 1st semester (SUTER)

B. Trigonometry.—This is equivalent to entrance subject 6, and is not open to students having entrance credit in this subject. Plane Geometry is a prerequisite. 3 units, 2d semester (SUTER)

1. First-year Mathematics.—This course embraces (*a*) Algebra, (*b*) Trigonometry, (*c*) Coördinate Geometry, approximately equal periods being given to the three subjects. The work begins with a rapid review of Elementary Algebra, intended to test the student's familiarity with fundamental principles and operations, those showing deficient preparation not being permitted to continue. This review is followed by more advanced work in Algebra, but emphasis is laid on the thorough mastery of the ordinary rules rather than on covering a large amount of ground. In the second part of the course much attention is paid to reviewing and enforcing the fundamental principles of Plane Trigonometry, and especially to the numerical solution of triangles using both natural and logarithmic functions. In Coördinate Geometry it is aimed to familiarize the student with the method of coördinates, so that he can apply it independently to simple problems, rather than to devote much attention to a detailed study of the properties of the conic sections or other curves. The course is open to students having entrance credit in Elementary Algebra, Plane and Solid Geometry, and Plane Trigonometry.

5 units, both semesters (MORENO, SUTER, PONZER)

2. Calculus.—An elementary course on Differential and Integral Calculus, in which emphasis is laid on fundamental principles and simple applications.

3 units, both semesters (SUTER, TOWNLEY, PONZER)

*It is not intended to offer these courses permanently, but a year's notice will be given of their withdrawal.

3 **Theoretical Mechanics.**—An elementary course, covering the fundamental principles of Statics, Kinematics, and Kinetics, restricted mainly to coplanar forces and to plane motion of particles and of rigid bodies. An elementary treatment of Graphic Statics is included. The course is designed as a preparation for the courses in Applied Mechanics taken by students of Engineering, but is open to all whose preparation includes the equivalent of course 1. Calculus must either precede this course or to be taken at the same time.

5 units, both semesters (HOSKINS, MORENO, TOWNLEY)

In addition to the foregoing, which are required of all students of Engineering, the following elective courses are offered:

4. **Adjustment of Observations.**—Theory of the method of least squares, with applications. Credit in course 2 or its equivalent is a prerequisite. 2 units, 2d semester (TOWNLEY)

5. **General Astronomy.**—This course will consist of a general survey of the various branches of astronomy, including a study of the celestial sphere, the bodies of the solar system, comets, the fixed stars, and other heavenly bodies. The treatment will be essentially non-mathematical. 3 units, 1st semester (TOWNLEY)

5a. **Practical Astronomy.**—The theory and practice of the determination of latitude, azimuth, time, and longitude. Intended especially to meet the requirements of students of civil engineering. Trigonometry and surveying are prerequisites.

3 units, 2d semester (TOWNLEY)

Additional courses in Practical Astronomy and in Geodesy may be arranged for students qualified to pursue them to advantage.

6. **Graduate Courses.**—Advanced courses in Theoretical Mechanics, Hydromechanics, Theory of the Potential Function, Theory of Elasticity, or other subjects, may be arranged for students having the requisite mathematical training.

7. During 1909-10 a course in Fourier's Series has been conducted by Associate Professor MORENO. (2 units, both semesters)

PHYSICS

FERNANDO SANFORD, Professor.
FREDERICK JOHN ROGERS, Associate Professor.
ELMER REGINALD DREW, JOSEPH GRANT BROWN, Assistant Professors.
ALBERT EDWARD CASWELL, SHIRLEY HYATT, GEORGE FRANCIS MCEWEN, PERLEY ASON ROSS, Assistants.

Courses 1, 2, 3, 4, and 5 constitute a course in General Physics, and are intended to precede the advanced courses.

1. Dynamics.—Including hydrostatics and pneumatics. Open only to students who have had Algebra and Plane Geometry. Required as a preparation for each of the courses following (except 6 and 7). One lecture and two laboratory periods per week.

3 units, either semester (BROWN)

2. Electricity and Magnetism.—One lecture and two or three laboratory periods per week. Prerequisite: course 1, or its equivalent.

3 or 4 units, 2d semester (DREW)

3. Heat.—One lecture and two laboratory periods per week. Prerequisite: course 1. 3 units, 2d semester (SANFORD)

4. Sound.—Including wave-motion. One lecture and two laboratory periods per week. Prerequisite: course 1, and Trigonometry.

3 units, 1st semester (BROWN)

5. Elementary Optics.—Three laboratory periods per week. Prerequisites: course 1, and Trigonometry.

3 units, 1st semester. (SANFORD)

6. Engineering Physics.—Intended especially for students in Mechanical and Electrical Engineering. Three experimental lectures and recitations and one laboratory period per week. Prerequisite: entrance Physics, and course 3 in Applied Mathematics, or may be taken concurrently with Theoretical Mechanics.

a. Heat, Light, and Sound. 4 units, 1st semester (DREW)

b. Electricity and Magnetism. 4 units, 2d semester (ROGERS)

7. Physics for Students of Biology.—A general, non-mathematical course in Physics intended especially for students in Biological Science and students preparing for the study of Medicine. Two lectures and two laboratory periods per week throughout the year.

4 units, both semesters (SANFORD)

8. Mechanical Measurements.—A course in exact measurements of mass, length, time, and gravity, using balance, dividing engine, cath-

etometer, chronograph, etc. Two laboratory periods per week. Prerequisite: course 1. 2 units, 2d semester (BROWN)

9. **Electrical Measurements.**—Open to students who have taken course 2 or course 6*b*. 4 units, 1st semester (ROGERS)

10. **Advanced Optics.**—Two laboratory periods per week. Prerequisite: course 5. 2 units, 2d semester (SANFORD)

11. **General Physics.**—Lectures. Prerequisites: courses 1, 2, 3, 4, and 5, or their equivalent. 4 units, both semesters (SANFORD)

12. **Analytic Mechanics.**—Lectures. Prerequisites: course 1 and the Differential and Integral Calculus. 4 units, 2d semester (DREW)

13. **Teachers' Course in Elementary Physics.**— Prerequisites: courses 1, 2, 3, 4, and 5, or their equivalent. 1 unit, both semesters (SANFORD)

14. **General Thermodynamics.** — Prerequisites: Calculus and course 3, or its equivalent. 3 units, 2d semester (DREW)

15. **Vibratory Motion.**—Recitations and lectures illustrated by occasional lecture experiments and a few carefully executed laboratory experiments. A knowledge of Differential and Integral Calculus is required. 3 units, 1st semester (ROGERS)

16. **The Kinetic Theory of Gases.**—Prerequisites: Calculus and course 3 or its equivalent. 2 units, 2d semester (ROGERS)

17. **History of Physics.**—Lectures and readings on the history of physical science with special reference to the development of theories. Prerequisites: courses 1, 2, 3, 4, and 5. [Not given in 1909-10.] 2 units, 2d semester (ROGERS)

18. **Electrical Theory.**—Prerequisites: course 2 or 6*b*, and Calculus. 3 units, 1st semester (DREW, ROGERS)

19. **Investigation of Original Problems in the Laboratory.**—Hours to be determined in each case. (SANFORD)

20. **The Electron Theory.**—One lecture per week. Hours to be determined. 1 unit, 1st semester (ROGERS)

The Teacher's Recommendation.—The minimum requirement is courses 1, 2, 3, 4, 5, or an equivalent, and course 13.

Laboratory Fees.—Courses 1, 2, 3, 4, 5, 7, and 8, $4 each, per semester; courses 6*a*, and 6*b*, $3 each, per semester; course 9, $5 per semester; course 19, $2 per unit per semester.

CHEMISTRY

JOHN MAXSON STILLMAN, LIONEL REMOND LENOX, EDWARD CURTIS FRANKLIN, STEWART WOODFORD YOUNG, Professors.

*ROBERT ECKLES SWAIN, Associate Professor.

JOHN PEARCE MITCHELL, Assistant Professor.

WILLIAM HENRY SLOAN, †WILLIAM GEORGE BATEMAN, GEORGE DEFOREST BARNETT, Instructors.

FRED FINLEY FITZGERALD, Acting Instructor.

GEORGE SHAMBAUGH BOHART, THOMAS MEREDITH CRAMER, THORNTON MILLS HOPLER, ELOISE JOHNSON, RALPH EDWARD SANBORN, HARRY JOHNSON SEARS, ERNEST HENRY STABER, ELMER RUPEL WEAVER, Assistants.

I. LECTURE COURSES

1. General Inorganic Chemistry. — Comprising a systematic treatment of elementary principles and of the properties of the more important elements and their compounds. Open to all students. Those not having entrance credit in Chemistry will register in a three-hour section for the first semester and in laboratory course *a* I.

2 or 3 units, 1st semester; 2 units, 2d semester (MITCHELL)

2. Principles of General and Inorganic Chemistry.—Discussion of the elements of chemical theories and of important generalizations in the field of inorganic chemistry. Open to all students who have completed courses 1 and *a* II. 3 units, both semesters (STILLMAN)

II. LABORATORY COURSES

a. General Inorganic Chemistry.—In connection with course 1.

a I. Illustrating fundamental laws and principles of elementary chemistry, for students who have not received entrance credit in Chemistry.

2 units, 1st semester (MITCHELL, BARNETT)

a II. Inorganic preparations and general chemistry. For students who either have completed *a* I or have received entrance credit in Chemistry.

2 units, either semester (MITCHELL, BARNETT)

b. Qualitative Analysis.—Open to students who have completed courses 1 and *a* II.

3 afternoons, either semester (LENOX, BATEMAN)

c. Preparation of Typical Carbon Compounds.—Open in connection with course 3 to students who have completed course *b*.

3 afternoons, either semester (FRANKLIN)

*Absent on leave, 1909-10.

†Resigned December, 1909.

d. Quantitative Analysis.—Training in manipulation in gravimetric and volumetric methods. Work begins either semester. Students in other departments than Chemistry may register for three afternoons if they can not arrange for four, as is recommended. Open to students who have completed courses 6 and *b*.

4 afternoons, either semester (STILLMAN, SLOAN)

e. Mineral Analysis.—Systematic analysis of representative minerals. Open to students who have completed course *d*, and required of students whose major subject is Chemistry, unless *f* or *g* be elected instead.

4 afternoons, either semester (STILLMAN, LENOX, SLOAN)

f. Physical-Chemical Measurements.—Exercises in the practice of physical-chemical laboratory methods. Open to students who have completed or are taking course 8, and who have completed course *d*.

3 or 5 units, either semester (YOUNG)

g. Physiological Chemistry.—A laboratory course including a preliminary study of the proteids, carbohydrates, and fats, and the action of the various digestive fluids upon them, followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. In connection with course 11.

3 afternoons, 1st semester (SWAIN)

h. Assaying.—Open to students who have completed course *d*.

3 afternoons, either semester (LENOX)

3. Organic Chemistry.—Lectures and reviews on the chemistry of carbon compounds. Open to students who have completed courses 1 and *a*. 2 units, both semesters (FRANKLIN)

[A condensed course in organic chemistry is offered for students in medicine. See Department of Medicine, Division of Chemistry, course 1.

4. Industrial Chemistry.—Lectures on fuels, water, acid and alkali manufacturing, explosives, sugar-making and refining, petroleum. Lectures in this course are also given by Professor FRANKLIN (Dyes). Open to students who have completed courses 2 and 3; or may be taken concurrently with course 3. 2 units, both semesters (STILLMAN)

5. History of Chemistry.—Open to students who have completed courses 2 and 3. [Given in 1909-10.]

2 units, 1st semester, in alternate years (STILLMAN)

6. Qualitative Analysis.—In connection with laboratory course *b*.

1 unit, either semester (LENOX)

7. Advanced Organic Chemistry.—Advanced topics in organic chemistry, including stereochemistry. Open to students who have completed courses 2 and 3. [Not given in 1909-10.]

2 units, both semesters, in alternate years (FRANKLIN)

8. General Physical Chemistry.—Lectures covering as far as possible the whole field of physical chemistry. Open to students who have completed courses 2 and *d* in Chemistry, courses 3 and 9 in Mathematics, and course 1 in Physics (course 2 being also recommended).

3 units, both semesters (YOUNG)

9. Physical-Chemical Measurements.—An informal course of lectures given as needed in connection with course *f*.

No credit (YOUNG)

10. Theories of Analytical Chemistry.—

1 unit, 2d semester (YOUNG)

11. Physiological Chemistry.—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods, and the elimination of waste products. Open to students who have completed course 3, and Physiology 1 or its equivalent. [Not given in 1909-10.] 3 units, 1st semester (SWAIN)

12. Seminary in Chemistry.—Discussion of assigned topics in theoretical and general chemistry. Open to graduate students, and to advanced undergraduates in Chemistry, with the approval of the Faculty in Chemistry.

1 unit, both semesters

x. Advanced and Special Courses in laboratory work and research work are open to students who have completed necessary prerequisites, by arrangement with professors of the Department and with reference to the particular aims and ambitions of the students. Such advanced or special subjects are, for example, special methods in mineral analysis, iron and steel analysis; special methods in assaying; water analysis; food analysis; urine analysis; elementary organic analysis; special organic preparations; analysis of sugar, toxicology, etc.

Qualified students may also pursue investigations of problems in inorganic, organic, physical, analytical, or physiological chemistry under the direction of any professor with whom arrangement is made.

For all such advanced, special, or research work, students will register and enroll under *x*, giving name of professor under whom the work is to be carried on, and for such number of units of credit as may be agreed upon.

Candidates for the degree of Bachelor of Arts in Chemistry may select any one of the four following curricula (A, B, C, D), the requirements of the Department being as follows:

A. General Chemistry

First Year:—Chemistry 1, *a;* Physics 1; Mathematics 3; German 1.
Second Year:—Chemistry 2, 6, *b;* Mathematics 9; German 2*a*.
Third and Fourth Years:—Chemistry *d*, 3, *c*, 8, *f*.
Recommended for all who are studying the science of chemistry for its own sake or for the profession of teaching.

B. Analytical Chemistry

First Year:—Chemistry 1, *a;* Physics 1; German 1.
Second Year:—Chemistry 2, 6, *b;* Geology 1, 2; German 2*a*.
Third and Fourth Years:—Chemistry *d*, *e*, *c*, *h*, 3, 10; Geology 5.
Particularly adapted to students who are looking forward to the career of analytical chemist and assayer.

C. Medical or Sanitary Chemistry

First Year:—Chemistry 1, *a;* Physiology 1; German 1.
Second Year:—Chemistry 2, 6, *b;* Physics 7; German 2*a*.
Third and Fourth Years:—Chemistry 3, *c*, *d*, 11, *g*.
Particularly adapted to students who are looking forward to medical education or to sanitary chemistry.

D. Chemical Engineering

This curriculum comprises four years of the necessary five years' work leading to the advanced degree of *Engineer* in Chemical Engineering. Candidates in this course receive the degree of A. B. in Chemistry upon completion of the following requirements:

First Year:—Chemistry 1, *a;* Applied Mathematics A, B, 1; German 1.
Second Year:—Chemistry 2, 6, *b*, *d;* Applied Mathematics 2, 3.
Third Year:—Chemistry 3, *c;* Engineering 1*a*, 1*b*, 2; Physics 1, 2 (or 6*a* and 6*b*); German 2*a*.
Fourth Year:—Chemistry 4, *e* (or *h*); Mechanical Engineering 11, 13; Metallurgy 10; Engineering 3*a*.

Intended particularly for students who are working toward the degree of Chemical Engineer and who desire to fit themselves for positions of responsibility in connection with the administration of industries involving chemical knowledge and skill.

Advanced Degrees

Applicants for the degree of *Master of Arts* in Chemistry will be expected to complete, in addition to the requirements for the bachelor's

degree, the equivalent of thirty units' work in the University—of which approximately two-thirds must be in the Department. This work will include a thesis based on laboratory work, and chemistry 8 and *f*, if not included in the undergraduate work.

Candidates for the advanced degree of *Engineer* in Chemical Engineering will be required to complete, in addition to the requirements for the A. B. degree specified under course D: Mechanical Engineering 14, 31 (first semester of the course), 24, 36 (3 units per week for one semester), Chemistry 8, and a thesis based on laboratory work. Electrical Engineering 1 is advised, if possible, though not required. It is estimated that these requirements may be completed in one year after the completion of the requirements under Course D.

Candidates for the degree of *Doctor of Philosophy* in Chemistry, after the completion of the equivalent of the requirements for Master of Arts or Engineer, will follow such courses as are approved by the Department faculty, subject to general University regulations.

The Teacher's Recommendation.—The minimum requirement for the high school teacher's recommendation in Chemistry is courses 1 and *a* (Elementary and General Inorganic, lectures and laboratory), the first half of course 2 (Principles of Chemistry), and either the second half of course 2, or courses 6 and *b* (Qualitative Analysis, lectures and laboratory).

Laboratory Fees.—A charge of twenty-five dollars per semester will be made to students in each laboratory course of not more than four units registration. Of this charge five dollars per semester in assaying, and ten dollars per semester in the other courses, is returnable, less bills for breakage and loss of apparatus.

BOTANY

Douglas Houghton Campbell, Professor.
George James Peirce, Associate Professor.
Leonas Lancelot Burlingame, Assistant Professor.

1. Elementary Botany.—Study of representatives of the principal groups of plants, with lectures upon special morphology and classification. (Campbell's University Text-book of Botany.)

[Short botanical excursions will be made on six Saturday mornings in each semester. Attendance on these is not required, but is desirable, and will yield an additional half credit.]

3 or 3½ units, both semesters (Campbell, Peirce, Burlingame)

2. **Algæ.**—Lectures, reading, and laboratory work upon the special morphology and classification of the Algæ.
5 units, first semester (CAMPBELL)

3. **Archegoniatæ.**—Special morphology and classification of the Archegoniatæ. Continuation of course 2.
5 units, 2d semester (CAMPBELL)

4. **Archegoniatæ.**—Advanced work in special groups.
1st and 2d semesters (CAMPBELL)

5. **Physiology.**—Laboratory work, lectures, and reading on Nutrition and Respiration. (An elementary knowledge of Physics and Chemistry is a desirable preliminary to this course.)
3 units, 1st semester (PEIRCE)

6. **Elementary Bacteriology.**—Laboratory work, lectures, and reading. [Not given in 1909-10.] 3 units, 2d semester (PEIRCE)

7. **The General Physiology of Plants.**—Lectures. Open to all.
1 unit, 1st semester (PEIRCE)

8. **The Evolution of Plant Forms.**—Lectures. Open to all except first-year students. [Not given in 1909-10.]
1 unit, 2d semester (CAMPBELL)

9. **Physiology.**—Laboratory work, lectures, and reading on Growth, Irritability, and Reproduction. (An elementary knowledge of Physics and Chemistry is a desirable preliminary to this course.)
3 units, 2d semester (PEIRCE)

10. **Botanical Technique.**—Lectures and laboratory work on methods of preparation and study of plant material.
3 units, 1st semester (BURLINGAME)

11. **Cytology.**—Lectures and laboratory work on the plant cell; the bearings of cytology on evolution, plant breeding, etc. (Open only to those who have had courses 1 and 10; courses 2 and 3 are desirable preliminaries). 3 units, 1st semester (BURLINGAME)

12. **Advanced Work in Morphology and Physiology.**—Intended especially for graduate students. (CAMPBELL, PEIRCE)

Course 1 must precede all other courses, except courses 7 and 8. Students making the subject a major must complete thirty-five units, including courses 1 to 3 and course 5, course 2 or course 3 in Systematic Botany, and also course 1 in Zoology, before graduation. Course 12 is intended especially for graduate students, and opportunities will be given such students for carrying on special lines of work upon original problems.

The Teacher's Recommendation.—The minimum requirement is course 1 and two additional courses.

Laboratory Fees.—Two dollars and a half for course 1; ten dollars for course 6; five dollars for courses 5 and 9; three dollars per semester for each of the other laboratory courses.

SYSTEMATIC BOTANY

William Russell Dudley, Professor.
LeRoy Abrams, Assistant Professor.
James Ira William McMurphy, Acting Instructor.

Instruction in this Department chiefly relates to the Spermaphytes, their structure, affinities, and geographic distribution. The advanced work on the Fungi will also be given under its direction. Course 1, or its equivalent, and the Algæ and Archegoniatæ in General Botany, course 1 in Zoology, and course 1 in Entomology are required of students intending to graduate with Systematic Botany as a major study. Students are strongly advised to take one or more courses in Physiology by Professor Peirce.

1. Spermaphyta.—An elementary course in the morphology, histology, and affinities of the principal orders of flowering plants represented on the Pacific Slope. The laboratory work will be supplemented during the latter part of the course by field work and classification.
3 units, both semesters (Abrams)

2. Geographical Distribution and Forest Botany.—Lectures on the orders containing trees and shrubs and on the principles of geographical distribution which they illustrate. Laboratory work, also preparation of herbarium specimens of woody plants, native and exotic.
3 units, 2d semester (Dudley)

3. Fungi.—The laboratory work (three hours) will be devoted to morphology, development, and culture methods; the lectures to systematic relationships, with an account of economically important forms.
4 units, 1st semester (Dudley)

4. Elementary Taxonomy.—This course consists of field and laboratory work, with special reference to the collection and determination of flowering plants. 2 or more units, 2d semester (Abrams)

5. The Compositæ.—A study of representatives of the tribes of Compositæ, with reference to the general principles of classification.
2 units, 1st semester (Abrams)

Advanced Courses

6. **Advanced Fungi.**—The investigation of some group of fungi, which may be either a taxonomic or a biological study.

2 or more units, either semester (Dudley)

7. **Coniferæ.**—A study of the Coniferæ, dealing especially with the classification and distribution of the North American species and regional distribution in other parts of the world.

2 units, 1st semester (Dudley)

8. **Phytogeography.**—This course is intended for those students who wish to pursue further the studies undertaken in course 2. It will consist of laboratory, herbarium, and field studies of the trees and shrubs, with reference to their local distribution.

2 or more units, either semester (Dudley, Abrams)

9. **Special Taxonomy.**—A critical study of some family or genus, with special reference to nomenclature and the methods of investigation. The laboratory and herbarium work will be supplemented by field work. 2 or more units, either semester (Dudley, Abrams)

10. **Graduate Work.**—This includes investigation on a special subject in the Spermaphyta or Fungi, which may be either a systematic or a biological study. It is supplemented by reading, and a study of methods in bibliography. (Dudley, Abrams)

Several carefully planned excursions in the second semester, through the plant formations in the adjacent mountains, are made the subjects of written reports by the students in course 2. Similar excursions are required in course 3.

The Herbarium consists largely of plants collected in Western America, and includes, besides purchases, considerable donations from the National Herbarium, the California Academy of Sciences, J. W. Congdon of Mariposa, and others. The considerable private collections of flowering plants and fungi belonging to the Head of the Department are in constant use.

Laboratory Fees.—Laboratory fees for courses 1 and 3, three dollars; for the other courses, two dollars.

Courses Leading to Forestry

No instruction in technical forestry is given in the University; but a growing demand has led the Department to lay down courses for individual students in harmony with the preparatory requirements of the best forestry schools. Systematic Botany is made the major subject, with plant physiology and advanced work in the forest botany of

the Pacific-Rocky Mountain region substituted for the algæ and archigoniatæ. Collateral study in Entomology is required, together with certain courses in Zoology, Geology, Mathematics, and other departments, and a reading knowledge of French and German. At the end of four years students have the advantage of a knowledge of Western plants, plant-formations, and climatic conditions in the most important field for applied American forestry, and a better scientific basis for their technical studies than is usually possessed by those pursuing work in forestry schools.

PHYSIOLOGY AND HISTOLOGY

Oliver Peebles Jenkins, Frank Mace McFarland, Professors.
James Rollin Slonaker, Clara S. Stoltenberg, Assistant Professors.
John Floyd Pruett, Ethel Madelaine Watters, Frank Walter Weymouth, Assistants.

Undergraduate Courses

1. General Anatomy and Physiology.—This course is designed to give a general view of the laws of the structure and the activity of organisms. The work will give occasion to discuss many questions of General Biology. It consists of: First, the study of the cell and its activities as shown in the unicellular organisms, in reproductive cells, and in individual cells of many tissues; second, the study of the laws and course of development resulting in higher differentiations in structure, and specializations in function, exhibited in a selected series of organisms, both animals and plants, of increasing complexity; third, the comparative study of the physiological processes of forms placed under widely different conditions. The latter part of the course is occupied with an introduction to the embryology, anatomy, and physiology of vertebrates. (One lecture and five laboratory hours a week.)

3 units, both semesters (Jenkins, Slonaker)

2. Physiology of Muscle, Blood, and Circulation.—To be preceded by course 1. An experimental course covering the ground represented in Foster's Physiology, Part I, or Howell's Text-book on the same subjects. (One lecture and five laboratory hours per week.)

3 units, 1st semester (Slonaker)

3. Physiology of Digestion, Respiration, Elimination of Wastes, Metabolism, and Nutrition.—Planned to follow course 2. An experimental course, with Foster's Physiology, Part II, and Howell's Text-book, as texts. (One lecture and five laboratory hours per week.)

3 units, 2d semester (Slonaker)

4. Structure of the Nervous System.—The course consists of the dissection and comparative study of a series of vertebrate brains, including the human brain and cord; abundant material is provided; also such necessary helps as the latest models and charts. For texts the student will use Quain, Edinger, and Barker. (One lecture and six laboratory hours per week.)

3 units, 1st semester (STOLTENBERG)

5. Anatomy and Histology of the Sense Organs.—It is planned to supplement course 4, the two being designed to give the gross and minute anatomy of the central nervous system and sense organs. The texts necessary for the student's use are Quain and Barker. (One lecture and five laboratory hours per week.)

3 units, 2d semester (STOLTENBERG)

6. Physiology of the Nervous System and Sense Organs.—An experimental course in these subjects, requiring courses 4 and 5 as preliminary. Texts: Foster, Howell's Text-book. (One lecture and five laboratory hours per week.)

3 units, 1st semester (JENKINS)

7. The Vertebrate Eye.—A comparative study of the structure and physiology of the eyes of vertebrates, giving special attention to the retina. Open to advanced students. (Lecture and laboratory work, six hours per week.) 2 units, 2d semester (SLONAKER)

8. Special Courses in Physiology.—Advanced courses open only to those who have had courses 1, 2, 3, 4, 5, and 6. They are arranged for the advanced study of selected subjects in physiology, or as a drill in the methods of research. The work will be planned for the individual student, the time varying with the exigencies of the case.

2 to 5 units, both semesters (JENKINS)

9. Histology.—The study of the structure of the cell and its general phenomena, the fundamental tissues and the outline of their development in a comparative way, occupy the first semester. In the second, the microscopic anatomy of organs, except those of the nervous system and special senses [see courses 4 and 5], is dealt with. Elementary histological technique is taught during the course. Prerequisite: course 1, or its equivalent. Physiology majors are advised to take courses 2, 3, and 9 together. (One lecture and six laboratory hours per week.) 3 units, both semesters (MCFARLAND)

10. Histogenesis.—A course in advanced Histology for students who have completed courses 1 and 9, and in addition the first semester of Vertebrate Embryology (Zoology 10). It comprises the comparative

study of the histogenesis of the fundamental vertebrate tissues and organs. (One lecture per week, minimum laboratory work six hours per week.) 3 units, 1st semester (McFarland)

11. **Neurocytology.**—A comparative study of the minute structure of the nerve cell and nerve fibre, the neurone theory, and the question of functional alterations of structure during normal activity and artificial stimulation. (One lecture and at least six laboratory hours per week.) Open to advanced students.

3 to 5 units, 2d semester, in alternate years (McFarland)

12. **Cellular Biology.**—A course in Cytology dealing with the structure and functions of the cell, with special reference to the reproductive processes in unicellular and multicellular organisms, and the theories connected therewith. Open to advanced students. (Two lectures per week, with demonstrations and laboratory work.)

3 to 5 units, 2d semester, in alternate years (McFarland)

13. **Anatomy.**—This course consists of twelve weeks' study of human osteology, with a brief comparative study of skeletons of vertebrates. The remaining six weeks is given to mammalian myology, angiology, and splanchnology (dog, cat, rabbit). [For anatomy of nervous system and sense organs, see courses 4 and 5.]

2 to 5 units, 2d semester (Stoltenberg)

14. **Special Courses in Histology.**—Advanced courses in Histology, Cytology, and Microscopic Anatomy will be arranged for individual students, with a view to giving drill in methods of research. Open only to those who have had courses 1, 5, and 9.

2 to 5 units, both semesters (McFarland)

15. **Journal Club.**—Students in the advanced classes will be expected to meet once a week to discuss current literature in Physiology and Histology. 1 unit, both semesters (Jenkins)

16. **Seminary in Physiology and Histology.**—Open to graduate students. 2 units, both semesters

17. **Research in Physiology or Histology.**—By arrangement. (Jenkins, McFarland, Slonaker, Stoltenberg)

Candidates for the Bachelor's degree who select Physiology and Histology as a major will be expected to take courses 1, 2, 3, 4, 5, 6, 9, and 15, and at least five units to be made up from the other courses offered in the Departments of Physiology or Anatomy; and in addition courses 1 and *a* in Chemistry, one year in Physics (see course 7), and

the first semester in Embryology (course 10 in Zoology). Candidates for the degree of M. D. will also include Chemistry.

Laboratory Unit of Credit.—In those courses in which definite laboratory time is not fixed, three hours of laboratory work per week through one semester are taken as the equivalent of one unit of credit.

The Teacher's Recommendation.—Students who wish the Department recommendation for High School teaching in Physiology are expected to complete the first two years' work (courses 1, 2, 3, and 9).

Laboratory Fees.—Seven dollars per semester, except for course 1, in which the fee is five dollars per semester.

Graduate Courses

The graduate work of the Department is included in the courses numbered 7, 8, 10, 11, 12, 14, 15, 16, and 17. Undergraduate students may elect such of these courses as they are prepared to take, but credit recorded in undergraduate standing will not count toward a higher degree. The details of the work of a graduate student will be planned for each individual, and will naturally depend on the aim sought by him and upon his previous training. Candidates for the higher degrees will be expected to include in their work attendance on the Journal Club and Seminary, the selection of certain of the courses given above, and the accomplishment of some research. When it is desired to select a minor subject, the choice of such minor will be guided by the needs of the candidate. The work leading to these degrees is of such a nature as to require a reading knowledge of German and French for its accomplishment.

Preparation for the Study of Medicine

Students intending to enter on the study of Medicine are advised to take Physiology and Histology as a major subject, with Chemistry, Physics, Anatomy, and Hygiene among the collateral subjects. Such a course gives that foundation both in scientific knowledge and in skill in experimental Physiology, and in Histological and Anatomical technique, which will make it possible to accomplish the medical course of the best medical schools with greater advantage. The courses required for graduation in the Department of Physiology and Histology with the degree of A. B. include the premedical requirements and the work of the first year of the Medical Department of Leland Stanford Junior University. For details of requirements for students intending to register in the Department of Medicine see the announcement of that department.

HYGIENE

*William Freeman Snow, Associate Professor.
Royce Reed Long, Assistant Professor.
Florence Bolton, Harry Wilfred Maloney, Instructors.
†Vera Townsend, Acting Instructor.
William Ramsay Dows Randall, Eleanor Stow Bancroft, Assistants.
Thomas Marion Williams, Medical Adviser.
Leslie Eugene Bailey, Laboratory Assistant.
Lottita M. Corella, James Porter Crawford, Edna Grayce Davis, Frank Howard Hilton, Robert Harold Jesson, Eugene Garrison McCann, Archibald Forbes Meston, Josephine Louise Dows Randall, John Henry Wiggins, Gymnasium Assistants.

General Education Courses

The following courses are useful to the major students of all departments by affording them an opportunity to learn the practical application of science to the requirements of personal and public health. The regular work of the Department is given below under "Department Courses."

1. Personal Hygiene.—Demonstrations, and three exercise hours per week in the gymnasium and its open-air divisions. Open to all students. Registration may be repeated each semester, but each student must show steady progress toward his highest physical efficiency. General strength, skill, and endurance tests must be passed before work is permitted in the various team and personal contest games.

1 unit, each semester

(Encina Gymnasium, Long; Roble Gymnasium, Townsend)

2. Public Health.—Lectures on the principles of public and industrial hygiene, and quarantine methods. The course includes required trips to the federal and municipal health departments in the vicinity of the San Francisco harbor, to various hospitals, and to laboratories for the preparation of vaccines and serums. Each student must enroll in a demonstration section. Not open to first-year students.

2 units, either semester (Long)

Department Courses

3. Industrial Hygiene.—A study of the effects of occupation on the health of individuals employed in the representative industries,

*Absent on leave, 1909-10.

†Absent on leave, second semester, 1909-10.

trades, and professions. Occasional lectures, reading, and individual inspection work. A number of large industrial enterprises in the vicinity of San Francisco arrange annually for class inspection trips. Not open to first-year or second-year students.

3 units, 1st semester (Snow, Randall)

4. Physical Training Methods.—Open only to specially qualified students who wish to obtain the departmental recommendation for teachers of physical training. A progressive laboratory course is offered in the methods of examining students, and estimating their endurance and adaptability to various forms of exercise and sport. Regular practice is required in the application of the course to gymnasium instruction, athletic coaching and training, and the teaching of personal contest games. (One laboratory and two practice hours each week.) Registration may be repeated by special arrangment with the instructors. 1 unit, each semester (Long, Bolton)

5. Epidemiology.—Each student is required to make a detailed study of a selected series of epidemics and of the vital statistics of assigned cities and States. The purpose of the course is to give the student practical experience in the use of epidemiological literature and methods of analysis. Open to students preparing for medicine or some phase of the public health service. Prerequisite: course 3.

3 units, 2d semester (Snow, Randall)

6a. Hygienic Laboratory Technique.—Training in the methods employed in Public Health Laboratories. Prerequisites: Hygiene 5, epidemiology; Chemistry 6, qualitative chemistry; Botany 6, bacteriology; Physiology 3. [Not given in 1909-10.]

3 units, 1st semester (Snow)

6b. Sanitary Survey.—Training in the methods of field inspection and sanitary charting employed by officers of the public health service. Prerequisite: Hygiene 6*a*. [Not given in 1909-10.]

3 units, 1st semester (Snow)

Preparation for the Teaching of Physical Training

A Departmental Recommendation will be given to students of exceptional ability who have acquired a thorough foundation in Physiology and have completed at least six units of work in Hygiene 4.

Preparation for the Public Health Service

A Departmental Recommendation will also be given to students desiring to qualify for the public health service as sanitary inspectors, statisticians, disinfectors, quarantine or laboratory assistants, when a

sufficient amount of work has been completed to justify the recommendation.

The Department does not accept major students, but the department courses have been arranged with reference to the premedical work of students who plan careers as health officers or sanitary experts.

Laboratory Fees.—Two dollars per semester for course 1; fifty cents per semester for course 2, and course 5; three dollars per semester for courses 6*a* and 6*b*.

ZOOLOGY

Charles Henry Gilbert, Harold Heath, George Clinton Price, Professors.

John Otterbein Snyder, Edwin Chapin Starks, Walter Kenrick Fisher, Assistant Professors.

1. **Elementary Zoology.**—A laboratory course involving the study of representatives of the principal groups of animals, accompanied by lectures on their structure and classification, and on the general laws of biology which they illustrate.

3 units, both semesters (Price)

2. **Elementary Zoology** (special).—A laboratory course for beginners designed to meet the needs of major students in Geology. A considerable number of forms in each of the principal groups will be studied, and attention will be given to the conditions under which animals live. Field trips will constitute a required part of the course.

2 units, both semesters (Fisher)

3. **The Invertebrates.**—This course, following the first year's work, is designed to give the student a broader knowledge of the morphology and relationships of the more important invertebrate groups. 3 units, both semesters (Heath)

4. **Invertebrate Embryology.**—A study of segmentation, the formation of the germ layers, and certain phases of the later development, including the significance of larval forms and the relationships of the principal phyla. Must be preceded by courses 1 and 2.

2 units, both semesters (beginning 2d semester) (Heath)

5. **Advanced Work on Invertebrates.**—The original investigation of problems connected with the anatomy and embryology of invertebrates. 3 to 5 units, both semesters (Heath)

6. **Microscopical Anatomy.**—A study of the fundamental animal tissues, with drill in microscopical technique.

2 units, 1st semester (HEATH)

7. **Classification of the Invertebrates.**—A course designed to give a wider acquaintance with the large groups of marine invertebrates. Must be preceded by either course 1 or 2.

3 units, both semesters (FISHER)

8. **Special Systematic Work on Invertebrates.**—Original investigation of problems connected with the classification of invertebrates.

2 or 3 units, both semesters (FISHER)

9. **The Vertebrates.**—A general course in the classification of vertebrate animals, with studies in the habits and the geographical distribution of species. The course will include field excursions and a study of the methods of collecting and preserving specimens. The course may be begun either semester.

2 units, both semesters (SNYDER)

10. **Comparative Anatomy of the Vertebrates.**—A more detailed examination of vertebrate morphology, including dissection of representatives of the several classes of vertebrates, with comparative studies in vertebrate osteology, the nervous and circulatory systems, etc.

3 units, both semesters (SNYDER)

11. **Vertebrate Embryology.**—First semester: development of the chick through the first three days of incubation. Second semester: the early stages in the development of the salamander and the later stages in the development of the mammal.

2 units, both semesters (PRICE)

12. **Ichthyology.**—A course of lectures and laboratory work, including an examination of the larger groups of fishes with special reference to the characters on which they are based, and including practical work in the discrimination of species.

2 units, both semesters (GILBERT, STARKS)

13. **Advanced Ichthyology.**—Special problems in the morphology and classification of fishes will be set for advanced students prepared for such work. 2 to 5 units, both semesters (GILBERT)

14. **Journal Club.**—Open to seniors and graduate students.

2 units, both semesters (GILBERT)

Major students must before graduation complete courses 1, 3, 10, 12, 14, the first semester of courses 4 and 11, one advanced course in Zoology, and course 1 in Botany.

Work for graduate and special students will be laid out in accordance with their individual needs and preferences.

The Teachers' Recommendation.—The Department recommendation for High School teaching in Zoology requires the completion of the following subjects: Elementary Zoology, 6 units; the Invertebrates, 6 units; the Vertebrates, 4 units; Comparative Anatomy of the Vertebrates, 6 units.

The Zoological Collections

The Zoological Museum contains a very full representation of the fishes of North America, and includes among others a valuable series of the deep-water fishes of the Pacific, and large collections from the West Indies, the Hawaiian Islands, Bering Sea, Japan, the coasts of Mexico and Central America, and the Galapagos Islands. The museum contains also a large representation of the reptiles, batrachians, birds, and mammals of California and adjoining States. The collection of marine invertebrates is rich in Pacific echinoderms and crustacea, and contains a good working nucleus in the other principal groups. The series of deep-sea forms is especially valuable.

Laboratory Fees.—All laboratory courses, three dollars each per semester.

ENTOMOLOGY AND BIONOMICS

Vernon Lyman Kellogg, Professor.
Mary Isabel McCracken, Rennie Wilbur Doane, Walter Kenrick Fisher, Assistant Professors.
David Starr Jordan, Lecturer.

ENTOMOLOGY

1. **Elementary Entomology.**—The elementary study of insect structure, development, and classification, including practice in collecting and preserving specimens. Any forenoon hours.
3 units, either semester (McCracken)

1a. **Morphology and Physiology of Insects.**—Continuation of the preceding course, devoted to the study of the metamorphosis, comparative morphology, and special physiology of insects. Any forenoon hours.
3 units, either semester (McCracken)

2. **Classification and Development of Insects.**—Continuation of the preceding courses, devoted especially to a rapid study of the present-day classification into orders, families, and genera of the insect class,

and to a study of the characteristics of the life history of insects of all the different orders. Forenoon hours.

2 units, both semesters, or 4 units, either semester (McCracken)

3. **Economic Entomology: Forest Insects.**—A study of the insect enemies of forest and shade trees. The course includes field, laboratory, and bibliographic work. Must be preceded by courses 1 and 1*a*. Forenoon hours. 2 or 3 units, 1st semester (Doane)

3a. **Economic Entomology: Orchard and Garden Insects.**—A study of the principal injurious and beneficial insects of the orchard and garden. Includes field, laboratory, and bibliographic work, and a weekly lecture on the history, principles, and practice of economic entomology. Must be preceded by courses 1 and 1*a*.

2 or 3 units, 2d semester (Doane)

4. **Economic Entomology: Coccidæ (the scale insects).**—A study of the classification, general biology, and economic relations of the scale insects, with particular attention to the more important injurious ones of the Pacific Coast. Field, laboratory, and bibliographic work, with occasional lectures. Must be preceded by courses 1 and 1*a*.

2 or 3 units, either semester (Doane)

5. **General Entomology.**—A course of lectures and demonstrations. Open to students who have had some work in Biology (Zoology, Botany, or Physiology). 1 unit, 2d semester (Kellogg)

6. **Insects and Disease.**—A course on the relations of insects to the dissemination of disease in man and the domestic animals. One lecture and one or two laboratory periods a week. Open to students of some previous laboratory training in biology.

1 or 2 units, 2d semester (Kellogg)

7. **Advanced Work.**—Advanced study and investigation of the biology of insects. Laboratory and field work.

2 to 5 units, both semesters (Kellogg)

Work for graduate and special students will be specially arranged.

Major students in Entomology must obtain before graduation twenty-eight units of credit in Entomology, and credit for course 1 in Zoology, and course 1 in Botany, making forty units in biological subjects.

The *Entomological Collections* contain authoritatively determined specimens, accessible for comparison, in all of the insect orders, and include many sets of specimens illustrating the development and habits of insects. There is included, also, the most important existing collection of North American Mallophaga, comprising the types of four-fifths

of all the species so far described from North America and the Pacific Islands, an unusually large collection of Coccidæ (scale insects), and a valuable series of specimens from the Galapagos Islands.

BIONOMICS

8. Organic Evolution.—Lectures on the laws or principles of biology and the factors in organic evolution. Not open to first- and second-year students. Certain lectures in this course are given by Mr. Luther Burbank.

1 unit, both semesters (Jordan, Kellogg, Fisher)

9. Man in Nature and Evolution.—Lectures on the evolutionary history of man, and his present status in nature. Open only to students who have had course 8 or its equivalent.

2 units, 1st semester (Kellogg)

Laboratory Fees.—Three dollars per semester for each laboratory course, except course 6. Laboratory Fees in course 6, $1.50.

GEOLOGY AND MINING

John Casper Branner, James Perrin Smith, John Flesher Newsom, James Farley McClelland, Professors.

Austin Flint Rogers, Galen Howell Clevenger, Luther William Bahney, Assistant Professors.

Welton Joseph Crook, Hugo Edmund Kramm, John R. Pemberton, Donald Steel, Arthur Fay Taggart, Assistants.

GEOLOGY

Students intending to make geology their major subject should offer, as a part of their entrance preparation, solid geometry, trigonometry, physics, chemistry, zoology, and French or German, or both; otherwise the mathematics, physics, chemistry, and language must be taken in the University.

1. Dynamic and Structural Geology.—Lectures, with syllabus.

3 units, 1st semester (Branner)

1a. Physiography.—Lectures, with syllabus.

1 unit, 2d semester (Branner)

2. Economic Geology.—Lectures, with syllabus. Open to students who have completed course 1.

2 units, 2d semester (Branner, Newsom)

3. **Topographic Geology.**—Field and laboratory work, with the construction of geologic maps and sections. Open to students who have completed course 1 in Geology, and course 4*a* in Civil Engineering.
4 units, summer vacation (BRANNER, NEWSOM)

4. **Field Geology.**—Field practice in working out geology in the field and its representation upon topographic maps and sections. Prerequisites: Geology 1, 5, and Civil Engineering 4*a*.
5 units, summer vacation (BRANNER, NEWSOM)

5. **Mineralogy.**—(*a*) Methods of study and the determination of minerals, including Crystallography and Blowpipe Analysis (first semester); (*b*) Study of common and important minerals (second semester). Open to students who have taken or are taking qualitative analysis. 3 units, both semesters (ROGERS, KRAMM)

6. **Petrography.**—(*a*) Crystal optics and study of rock-forming minerals in thin sections and hand specimens (first semester); (*b*) Study of principal rock types, igneous, sedimentary, and metamorphic (second semester). Open to students who have completed course 5 or equivalent. 2 units, both semesters (ROGERS)

7. **Paleontology.**—(*a*) Systematic Paleontology, or the history and character of organisms (first semester); (*b*) Historical Geology, or the history and character of geologic formations (second semester). Open to students who have completed course 1.
4 units, both semesters (SMITH)

8. **Paleontology.**—Original investigation of various problems in paleontology, especially of invertebrate morphology, and of the distribution of faunas. This course will consist entirely of private work, in field and laboratory. Open to advanced students and graduates.
2 to 5 units, both semesters (SMITH)

9. **Advanced Mineralogy.**—Properly qualified students may take up one or more of the following lines of study: (1) crystal morphology, (2) crystal optics, (3) chemical mineralogy and mineral analysis, (4) chemical and rock analysis, (5) paragenesis of minerals (introduction to study of ore deposits). These courses serve as a direct preparation for original work. 1 to 5 units, either semester (ROGERS)

10. **Paleontology.**—Lectures on special topics. Open to advanced students and graduates. 2 units, both semesters (SMITH)

11. **Special Courses.**—Special courses of instruction and training are laid out for advanced and special students according to the needs and qualifications of each individual. Special investigations are taken

up by advanced students as rapidly as it is possible for them to undertake such work advantageously.

1 to 5 units, both semesters (Branner, Newsom)

MINING AND METALLURGY

Students intending to make Mining and Metallurgy their major subject should offer, as a part of their entrance preparation, solid geometry, trigonometry, advanced algebra, physics, chemistry, zoology, and Spanish, French, or German; otherwise the mathematics, physics, chemistry, and one language must be taken in the University.

Curriculum

Mining and Metallurgy offers to students a five-year curriculum leading to the degrees of Mining Engineer or Metallurgical Engineer.

The degree of Bachelor of Arts will be granted upon the satisfactory completion of four years of this curriculum.

The following is a general summary of this curriculum, which will be subject to adjustment in individual cases.

First Year—Applied Mathematics 1 (10 units); Engineering 1*a*, 1*b* (6 units); Chemistry 1, *a* (6 units); English *a*, 2*a* (3 units); Language, French, German, or Spanish (6 units). Total, 31 units.

[None of the first-year subjects offered in the second semester can be taken without the first semester's work. First-year students can therefore advantageously enter the course as outlined above only at the beginning of the first semester.]

Second Year—Applied Mathematics 2, 3 (16 units); Mechanical Engineering 4*a* (2 units); Chemistry 6, *b*, *d* (8 units); Geology 5 (6 units); English 2*b* (2 units). Total, 34 units.

Third Year—Engineering 2, 3*a* (8 units); Civil Engineering 4*a* (5 units); Chemistry *h* (3 units); Mechanical Engineering 1*a*, 1*b* (3 units); Geology 2, 3, 6 (9 units); Elective, History or Economics (3 to 6 units). Total, 31 to 34 units.

Fourth Year—Mechanical Engineering 24, 31 (6 units); Law 34 (4 units); Geology 3, 4, 7, 6 (13 units); Mining 1, 2, 8, 10 (14 units); Electrical Engineering 1 (4 units).

(Geology 3 and 4 (9 units) are given during the summer vacation, between the third and fourth years.)

Total of fourth year, 41 units.

In the third year students working for the degree of Metallurgical Engineer may substitute Chemistry *c* (4 units) for part of the engineering listed in that year; and in the fourth year Mining 9 (2 units),

or Mining 12 (3 units), or Civil Engineering 8c (3 units) may be substituted for Mechanical Engineering 24.

Fifth Year—For the degree of Mining Engineer, Mechanical Engineering 35, 36 (6 units); Mining 3, 4, 5, 6, 7, 9 (26 units). Total, 32 units.

Mining

1. General Lectures on Mining.—Including methods of earth and rock excavation, prospecting, tunneling, shaft sinking, and mining methods. 3 units, both semesters

2. Ore Dressing.—Lectures on crushing and concentrating machinery and methods. 2 units, 1st semester

3. Summer Mining.—Two months' systematic work in the mines. Between fourth and fifth years. 4 units

4. Lectures on Mine Plant.—Including hoisting machinery, compressors, mine pumps, ventilating fans, and the handling of ore underground and on the surface. 3 units, both semesters

5. Ore Dressing.—Continuation of course 2. Theories of concentration and comparison of milling practice in different parts of the United States. 2 units, 1st semester

6. Mine Engineering.—Lectures on general engineering problems in connection with mining operations, including administration, organization, mine examinations, accounting, surveyng, etc. 2 units, 2d semester

7. Mine Thesis.—Each student describes and estimates the cost of the development and equipment of an hypothetical mining property under conditions which are assigned so as to fit the experience he has gained in his summer work. 5 units, both semesters

Metallurgy

8. General Metallurgy.—Four lectures a week throughout the semester. Required of all Mining and Metallurgy majors; open to others who have completed Chemistry 1.
4 units, 2d semester (Clevenger, Bahney)

9. General Metallurgy Laboratory.—Open only to those who have completed Chemistry *h* and who are taking or have had course 8.
2 units, 2d semester (Clevenger, Bahney)

10. Metallurgy of Constructive Materials.—A study of the manufacture and physical properties of iron, steel, and other alloys, with reference to their selection as constructive materials. Two lec-

tures a week, laboratory work given in connection with Engineering 2*b*. Students taking this course are expected to have a knowledge of Elementary Chemistry. 2 units, first semester (CLEVENGER)

11. Metallography and Physics of the Metals.—Recitations, reading, and laboratory work. Howe's "Iron, Steel, and Other Alloys" will be used as a text. The laboratory work will include a study of the micro-structure of the industrial metals and alloys, and of the influence of chemical composition, thermal and mechanical treatment, upon their structure. Also the relation of the structure of metals and alloys to their physical properties. Open only to students who have completed Chemistry 2, *d*, and 8. 3 to 5 units, either semester (CLEVENGER)

12. Metallurgical Laboratory.—Considerable option will be allowed in the work of this course. A student may either take up some problem or problems in connection with the extraction of metals from their ores, such as the facilities of the laboratory will permit, or he may take up advanced work in the physics of metals, metallography, etc. Students wishing to take up work in connection with the extraction of metals from their ores must have completed Chemistry *d* and *h*, or their equivalent. Those wishing to take up advanced work in the physics of the metals, metallography, etc., must have completed Chemistry *d* and *h*, or their equivalent. 3 to 5 units, either semester (BAHNEY)

Laboratory and Syllabus Fees.—Courses 1*a*, *b*, $7.50 each; course 10, $2.50 per unit; course 9, $20; courses 11, 12, $11.00 per unit of laboratory credit.

ENGINEERING

A. Entrance Subjects

Students must present among their entrance subjects solid geometry and trigonometry, in order to take the first year's work in applied mathematics for engineers. Those who fail to do this will not be able to graduate in less than five years.

B. General Courses

I. APPLIED MATHEMATICS

First-year Courses: — Algebra; Trigonometry; Co-ordinate Geometry.

Second-year Courses:—Calculus; Theoretical Mechanics.

(See announcement of Department of Applied Mathematics, p. 127.)

II. GENERAL TECHNICAL COURSES

1a. Linear Drawing and Lettering.—(Drafting two afternoons a week, September and October.) Open to all students, and required of students in Engineering. The instruments and materials for this course cost from twenty to thirty dollars.

1 unit, either semester (Foss)

1b. Descriptive Geometry.—Including applications to shades, shadows, and perspective. (Two afternoons of drafting each week, November and December. Two lectures and two afternoons of drafting each week, January to May.) This course is open to students who have completed or who are taking Solid Geometry and Engineering 1*a*, and is required of students in Engineering.

1 unit, 1st semester; 4 units, 2d semester (Foss)

2. Applied Mechanics:—

a. Mechanics of Materials.—Under this head are treated the theory of the strength and elastic properties of the ordinary materials of engineering construction. The main subjects covered are simple tension, compression, and shear; theory of flexure, with applications to simple and continuous beams; theory of long columns; torsion; repeated stress; sudden stress and resilience. (Lectures and recitations three hours a week.)

b. Testing of Materials.—Each student is required to make a series of experiments, testing the strength and elastic properties of wrought iron, cast iron, steel, and wood. A careful record of all experiments is required of every student. (Laboratory work, six hours a week.)

Open to students who have completed the first- and second-year courses for Engineering students in Applied Mathematics; required of all students having Engineering as a major subject.

5 units, 1st semester (Wing)

3. Hydraulics.—

a. Hydrostatics and Hydraulics.—This course treats of fluid pressure, the principles of fluid equilibrium, and the laws governing the flow of water through orifices, over weirs, in closed conduits, and in open channels. Open to students who have completed courses 2 and 3 in Applied Mathematics. 3 units, 2d semester (Hoskins)

b. Hydraulic Motors.—A discussion of the theory of the main types of turbines, including centrifugal pumps. A few lectures on the general theory of energy and on relative motion are given as an introduction to the course. Open to students who have completed course 3*a*.

3 units, 1st semester (Hoskins)

I. CIVIL ENGINEERING

CHARLES DAVID MARX, CHARLES BENJAMIN WING, LEANDER MILLER HOSKINS, JOHN CHARLES LOUNSBURY FISH, Professors.
JOHN HARRISON FOSS, CHARLES MOSER, Instructors.

A. TOPOGRAPHIC ENGINEERING

4a. Elementary Surveying.—Lectures: systems of co-ordinates, measurements, choice of systems, errors, checks, surveys, latitude and azimuth. Field work: experimental exercises, surveys. Drafting-room: computing, mapping. (Lectures two hours, field work and drafting nine hours, each week.) Open to students who have completed Engineering 1*a* and Applied Mathematics 1. Required of students in Civil and Mining Engineering. 5 units, either semester (FISH)

4b. Elementary Surveying.—For students in Mechanical and Electrical Engineering. (Field work, reading, and drafting, six hours each week.) 2 units, 1st semester (FISH)

B. RAILROAD ENGINEERING

6a. Railroad Surveying.—Lectures: circular curves, spirals and turnouts; reconnaissance, preliminary, location, and construction surveys; earthwork. Field and office: exercises in laying out curves and taking cross sections for topography and earthwork, and in plotting them; preliminary survey with profile and topographic map; paper location with profile and quantities; staking out paper location; earthwork and drainage surveys; final location profile and map; earthwork computations; distribution of material with use of mass diagram; overhaul computation; estimate of cost. (Recitations two hours, drafting and field work nine hours, each week.) Open to students who have completed 4*a*. Required of students in Civil Engineering.
5 units, 2d semester (FISH)

6b. Railroad Location.—Interest problems, sinking fund, present value of cost of maintenance and of renewal, capitalization, comparison of structures on basis of cost. Locomotive tractive force and resistances thereto, velocity profile, momentum grade. Traction problems involving inter-relation of train weight, grade, speed, and characteristics of locomotive. Tonnage rating. Value of change in distance, curvature, rise and fall, and ruling grade, based on an analysis of operating expenses. Pusher grades, balanced grades for unequal traffic and for adjacent divisions. Study of papers describing the application of economic theory to actual cases. Open to students who have completed 6*a*. 2 units, 1st semester (FISH)

6c. Railroad Construction.—Nature and requirements, methods of construction, organization of engineer corps; collection and record of information upon which to base designs and plans; designs; plans; staking out the work; inspection; classification, monthly estimates; records, reports and accounts; checks and controls. (Individual work on assigned problems three, six, or nine hours each week; lectures given during the drafting periods.) Open to students who have completed 6*a* and who have taken or are taking 8*b*.

1, 2, or 3 units, 2d semester (Fish)

C. Structural Engineering

8a. Elements of Design.—

1. *Materials.*—[See course 10 in Mining and Metallurgy.]

2. *Mechanics of Structures.*—Course 3 in Applied Mathematics is extended to the analytical and graphical determination of stresses in simple trusses. (Drafting-room, nine hours a week first half of semester.)

3. *Theory of Structural Details.*—Section 2 above is extended to an investigation of the distribution of stresses in structural details. (Drafting nine hours a week, last half of semester.)

Open to students who have completed course 1 in Engineering, and who have taken or are taking course 2 in Engineering, and also course 11*c* in Geology and Mining. Required of all students having Civil Engineering as a major subject. 3 units, 1st semester (Foss)

8b. Elements of Design.—

1. *Materials.*—Structural materials, other than metals, are studied from an engineering standpoint. Wood, stone, brick, limes, cement, etc., are considered in order. (Lectures three hours a week first half of semester.)

2. *Foundations.*—Under this head are considered the bearing power of soils, strength of piles, distribution of pressures, and similar details connected with the design of simple foundations. (Lectures and assigned reading three hours a week last half of semester.)

3. *Design.*—Complete designs are made, including working drawings, bill of materials, and estimate of cost, of some simple structure, such as a mill building or highway structure. (Drafting-room, nine hours a week first half of semester; six hours a week last half of semester.)

4. *Testing.*—Extending the work of course 2*b*. Each student is required to make a series of experiments, testing the physical properties of cement and other masonry materials. (Laboratory, three hours a week last half of semester.)

Open to students who have completed course 8*a* in Civil Engineering; required of all students having Civil Engineering as a major subject.

5 units, 2d semester (WING, MOSER)

8c. Elements of Design.—Courses 8*a* and 8*b* abridged to meet the requirements of students having Mining, Mechanical, or Electrical Engineering as a major subject. Special applications are made to hoisting and conveying structures, mill buildings, and central station buildings. (Hours to be arranged by consultation.)

Open to students who have completed courses 1 and 2 in Engineering and course 10 in Mining and Metallurgy.

3 units, 2d semester (WING)

9. Railway Bridges.—This course comprises the determination of the stresses in modern types of railroad bridges, including cantilever and swing spans, masonry arches, and arch ribs; the discussion of the most economical types, spans, and dimensions of bridges and bridge members; the study of the methods of constructing sub-aqueous foundations, shop methods, erection, inspection of material, specifications, and other factors influencing the design of bridges. Designs are made by each student to fulfill actual conditions, the parts proportioned, and bills of material prepared. Open to students who have completed course 8. (Lectures two hours per week, drafting nine hours.)

5 units, both semesters (WING)

D. HYDRAULIC ENGINEERING

12. Water-Supply Engineering for Towns and Districts.—Sources of supply. Collecting and storing of water, either for water supply of towns or for irrigation purposes. Settling, filtering, conducting, and delivering of water, including the study and design of all accessory works. (Three hours lectures and recitations, six hours drafting.) Open to students who have completed courses 2 and 3 in Engineering and 4*a* and 8*a* in Civil Engineering; required of all students who take their major in Hydraulic Engineering.

5 units, 1st semester (MARX)

13. Sanitary Engineering.—Including sewerage of towns and drainage of lands. Special attention will be given to the study of all municipal sanitary problems, such as removal of sewage, destruction of garbage, construction, maintenance, sweeping, and repairs of streets and pavements. (Three hours lectures and recitations, six hours drafting.) Open to students who have completed courses 2 and 3 in Engineering

and 4*a*, 8*a*, and 12 in Civil Engineering; required of all students who take their major in Hydraulic Engineering.

5 units, 2d semester (MARX)

15. Construction of Canals, River and Harbor Improvements.—Lectures and designing as per arrangement. Open to students who have completed courses 2*a*, 2*b*, and 3 in Engineering, and 4*a* and 8*a* in Civil Engineering. 2 units, both semesters (MARX)

16. Technical Seminary.—Study of German and French technical journals. Open only to fourth-year students in Civil Engineering.

2 units, both semesters (MARX)

II. MECHANICAL ENGINEERING

WILLIAM FREDERICK DURAND, GUIDO HUGO MARX, Professors.

†WILLIAM RANKINE ECKART, Associate Professor.

EVERETT PARKER LESLEY, Assistant Professor.

LAWRENCE EDMINSTER CUTTER, CHARLES NORMAN CROSS, FRANK OAKES ELLENWOOD, EDWARD JOHN STANLEY, JAMES BENNETT LIGGETT, THERON JAMES PALMATEER, ROBERT HENRY HARCOURT, ROBERT LONG DAUGHERTY, Instructors.

[Beginning with the class entering in the fall of 1910, provision will be made for a definite five-year curriculum leading to the degree of Mechanical Engineer. The proposed changes are of the following general character:

(*a*) The postponement to the fifth year of a considerable part of the professional work now given in the fourth year.

(*b*) The introduction at appropriate points of certain additional courses in engineering work.

(*c*) The addition of a considerable amount of non-engineering work intended to give broader and better preparation for the practice of engineering as a profession.]

The courses specified below represent the present major work for the undergraduate degree with Mechanical Engineering as a major subject. In addition, the typical work for this major includes the following courses in other departments: Applied Mathematics 1, 2, 3; Engineering 1*a*, 1*b*, 2, 3*a*, 3*b*; Physics 7 and 6, or 7 and 3; Chemistry 1 and *a*; Metallurgy 11*c*; Electrical Engineering 1.

Students entering with advanced credit may elect such other work as time and preparation permit.

†Absent on leave, 1909-10.

1-8. Shop Work.—

1*a*. *Forge Practice.*—(2 exercises a week, half year.)

1*b*. *Lecture in Forge Work.*

3*a*. *Foundry Practice.*—(2 exercises a week, half year.)

3*b*. *Lecture in Foundry Work.*

5. *Woodworking.*—(2 exercises a week, half year.)

6*a*. *Pattern Shop Practice.*—(2 exercises a week, half year.)

6*b*. *Lecture in Pattern Shop Work.*

7*a*. *Elementary Machine Shop Practice.*—(2 hours a week, half year.)

7*b*. *Lecture in Machine Shop Work.*

8. *Advanced Machine Shop Practice.*—(3 hours a week, half year.)

Courses 1-8 are open to all students, and required of students in Mechanical Engineering. 2 or 3 units, each semester

(Lesley, Stanley, Liggett, Palmateer, Harcourt)

9. Shop Administration.—Lectures. Open to students who have completed courses 1 to 6 inclusive, and are registered in or have completed 7*a* and *b*. 1 unit, 2d semester (Lesley)

11. Elementary Machine Drawing.—Practice in making free-hand sketches of machine parts from which working drawings, tracings, and blueprints are developed. (Six hours a week in drafting-room.) Prerequisite: course 1*a* in Engineering.

2 or 3 units, either semester (Cutter)

13. Elementary Machine Design.—

a. Function of machines; motion, force, and work in machines; valve gears. (Three hours a week, lectures, and recitations, second semester.)

b. Drafting course applying the principles treated in *a*. (Six hours a week drafting, second semester.)

Prerequisites: course 11 in Mechanical Engineering and course 1*b* in Engineering. Courses *a* and *b* must be taken together and are required of students in Mechanical Engineering.

5 units, 2d semester (G. H. Marx)

14. Machine Design.—Study of machine details, such as fastenings (including bolts and screws, riveted joints and boiler design, keys, fits and fitting); axles, shafts, and spindles; journals, boxes, and lubrication; ball and roller bearings; sliding surfaces; couplings and clutches; gear, belt, rope, and chain transmission systems; flywheels; springs; frames, and supports; etc. (Two hours a week recitation and lectures, six hours in the drafting-room, throughout the year.) Open to students who have completed course 13 in Mechanical Engineering, and who are taking course 2 in Engineering; required of students in Mechanical Engineering. 4 units, both semesters (G. H. Marx)

15. Machine Design.—An abridged treatment of the field covered in courses 13 and 14. (Three hours a week recitations and lectures, six hours a week in the drafting-room, first semester.) Open to students who have completed Engineering 1*b*, Mechanical Engineering 11, and are taking Engineering 2. Intended for Engineering students whose major subject is not Mechanical Engineering.

5 units, 1st semester (G. H. MARX)

16. Advanced Machine Design.—Design of complete machines. Students may elect machine tools, cranes, steam or gas engines, or special problems. (One lecture and six hours drafting per week.) Intended for fourth-year students who have completed courses 14, 31, 33. 3 units, both semesters (G. H. MARX, CUTTER)

21-25. Experimental Engineering.—

21. *Calibration and Use of Engineering Apparatus and Instruments,* including gages, thermometers, planimeters, indicators, dynamometers, meters, steam calorimeters, fuel calorimeters, and the testing of lubricating oils. (One lecture and six hours in the laboratory per week.) Open to students who have completed course 31. Required of third-year students in Mechanical Engineering.

3 units, 2d semester (CROSS, ELLENWOOD, DAUGHERTY)

22. *Testing of Steam Engines and Boilers,* including determination of engine clearance; valve setting; mechanical efficiency, economy and complete tests of simple and compound engines, steam turbines, gas engines; tests for speed regulation, and the testing of boilers. (One lecture and six hours in the laboratory per week.) Open to students who have completed course 21. Required of fourth-year students in Mechanical Engineering.

3 units, 1st semester (CROSS, ELLENWOOD, DAUGHERTY)

23. *Testing of Pumping Machinery and Power Plant Auxiliaries,* including steam and centrifugal pumps, hot-air pumping engines, injectors, heaters and economizers, blowers, condensers, refrigerating machinery, and a complete power-plant test. (One lecture and six hours laboratory per week.) Open to students who have completed courses 21 and 22. Required of fourth-year students in Mechanical Engineering. 3 units, 2d semester (CROSS, ELLENWOOD, DAUGHERTY)

24. *An Abridged Course in Experimental Engineering,* intended for Civil Engineering, Geology and Mining, and Chemical Engineering students. Includes the calibration of apparatus, testing of steam and gas engines, steam turbines, boilers, pumps, and water wheels. (One

lecture and six hours in the laboratory per week.) Open to students who have completed course 31.

3 units, either semester (Cross, Ellenwood, Daugherty)

25. *An Advanced Course in the Investigation of Engineering Problems.* Open to all students who have completed courses 21, 22, and 23.

1 to 5 units, both semesters (Cross, Ellenwood, Daugherty)

31. Heat Engines.—Mechanical theory of heat and its applications. (Two lectures and three hours' office work per week.) Required of third-year students in Mechanical Engineering.

3 units, 1st semester (Durand)

33. Heat Engines.—Continuation and application of course 31. (Two lectures and three hours' office work per week.) Required of third-year students in Mechanical Engineering. Lecture and office work as for 31. 3 units, 2d semester (Durand)

34. Thermodynamics.—A course in theoretical thermodynamics, with special reference to heat engines, and intended to supplement course 6, which is a prerequisite. Required of fourth-year students in Mechanical Engineering. 1 unit, 2d semester (Durand)

35. The Mechanical Engineering of Central Power Stations.—Lectures. Prerequisite: course 31.

2 units, 1st semester (Durand)

36. Pumping Machinery.—A lecture course for fourth-year students. Prerequisite: course 31, first semester.

2 units, 2d semester (Durand)

37. Seminary.—A weekly conference for the discussion of current engineering literature and of special topics. Open to fourth-year students only. 1 unit, both semesters (Durand)

Laboratory Fees.—Courses 1*a*, 3*a*, 7*a*, three dollars per credit hour; courses 5, 6*a*, 8, two dollars per credit hour; courses 21, 22, 23, 24, six dollars; course 25, three dollars per credit hour.

III. ELECTRICAL ENGINEERING

Harris Joseph Ryan, Professor.
Samuel Barclay Charters, Jr., Assistant Professor.
William Arthur Hillebrand, Instructor.

The following courses of instruction are given. Those required for the undergraduate degree with Electrical Engineering as a major subject are so specified; in addition the work required for this major includes the following courses in other departments:

Applied Mathematics A, B, 1, 2, 3; Engineering 1*a*, 1*b*, 2*a*, 2*b*, 3*a*; Civil Engineering 4*b*; Mechanical Engineering 1*a*, 1*b*, 3*a*, 3*b*, 5, 6*a*, 6*b*, 7*a*, 7*b*, 11, 13*a*, 13*b*, 21, 22, 31, 33, 35; Physics 6*a*, 6*b*, 9, and photometry and illumination (one unit); Chemistry 1 and *a*.

Students entering with advanced credit may also elect such other work as time and preparation permit.

A, B. Survey of Electrical Industries.—Advisory instruction to acquaint the underclassman with his duties as an electrical engineering student. For first-year students, A; for second-year students, B.

1 unit, each semester (RYAN)

1. Elements of Electrical Engineering.—An abridged course in the industrial applications of electricity, intended for non-electrical engineering students. Two laboratory lectures, one recitation, and one three-hour computing period per week. Prerequisites: courses 1, 2, and 3, in Applied Mathematics, and entrance Physics.

4 units, 1st semester (CHARTERS, HILLEBRAND)

2. Electrical Energy.—Required of third-year students in Electrical Engineering. Class and laboratory instruction in the technology of magnetic, electric, and electrostatic phenomena, electrical machinery and auxiliaries in continuous and alternating current working. Second semester prerequisites: Applied Mathematics A, B, 1, 2, 3; Engineering 1*a*, 1*b*, 2*a*, 2*b*; Mechanical Engineering 11, 13*a*, 13*b*; Physics 6*a*, 6*b*, 9; Electrical Engineering 2*a* (first semester).

a. Recitations and Experimental Demonstrations. (First semester)
1 unit, 1st semester; 4 units, 2d semester (RYAN, HILLEBRAND)

b. Laboratory Work.
4 units, 2d semester (CHARTERS, HILLEBRAND)

[Course 2 is supplemented by Physics 9, laboratory work in electrical measurements (4 units, 1st semester).]

3. Electrical Engineering.—Required of fourth-year students in Electrical Engineering. Lectures, laboratory, and class work, elements of design to be elected in a particular specialty. Prerequisites: Electrical Engineering, 2*a*, 2*b*; Engineering, 3*a*; Mechanical Engineering, 21, 31, 33. 8 units, 1st semester; 7 units, 2d semester
(RYAN, CHARTERS, HILLEBRAND)

a. Lectures:

*a*1. General Practice: (1) Standardization Authorized by the A. I. E. E. (2) Fire Hazard, National Electrical Code. (3) Transmission Economics. (4) Standard Machinery, Auxiliaries and Structural Supplies. (5) Municipal Distribution of Electricity for Miscellaneous

Service. (6) Long distance transmission of power for general purposes. (7) Discussion of typical installations. (8) Elements of finance controlling the uses of electricity. (9) Survey of electrical industries. (10) Historical and biographical sketches; Proceedings of the American Institute of Electrical Engineers.

4 lectures, 1st semester; 2 lectures, 2d semester (RYAN)

*a*2. Electric Railways.

2 lectures, 2d semester (CHARTERS)

*a*3. Transmission of Intelligence.

2 lectures, 2d semester (HILLEBRAND)

*b*1. *Laboratory Work.*—Characteristic performance of standard machinery and auxiliary apparatus; engineering tests of magnetic materials, conductors, and insulations; illumination tests of arc and incandescent lamps; tests of machinery and auxiliaries for capacity, acceptance, and technical data. 4 units, 1st semester (CHARTERS)

*b*2. Recitations, supplementing *b*1.

3 units, 1st semester (HILLEBRAND)

c. *Applications.*—Drill work, use of professional literature, and problems assigned in one of the following elective specialties:

*c*1. Elementary designs of power plants and systems of distribution; studies of corresponding practice as reported in literature and by visits to neighboring plants. (RYAN)

*c*2. Design studies in electric railway practice. (CHARTERS)

*c*3. Design studies in intelligence transmission. (HILLEBRAND)

Students in Electrical Engineering are not permitted to register for particular sections only in courses 2 and 3. The work in all sections of either course must be concurrent. A student who fails to do satisfactory work in these courses as a whole may be required to repeat all sections of a corresponding course, concurrently.

10. Graduate Work.—

a. Advanced study and investigation as assigned to meet the needs of the individual.

b. Preparation of reports based upon results obtained in graduate work and their presentation to the Stanford Branch of the American Institute of Electrical Engineers.

c. Preparation of thesis required for the degree of Engineer in electrical engineering. (RYAN, CHARTERS, HILLEBRAND)

The Stanford Branch of the American Institute of Electrical Engineers is an organization authorized by the Institute and maintained by the members of the senior class for the discussion of the Transactions

of the Institute, and of other topics as assigned, and the review of current electrical literature.

Students registering in electrical engineering for the first time should secure at the major professor's office a schedule of required studies that must be followed so that the course may be completed in four years, or in four years less the time gained by advanced standing allowed.

Laboratory Fees.—Two dollars per unit of university credit.

Syllabus Fees.—Applicable to syllabus, lantern slides, and charts. One dollar per course-section.

MEDICINE

Adolph Barkan, Professor of Structure and Diseases of the Eye, Ear, and Larynx.
Henry Gibbons, Jr., Professor of Obstetrics.
Joseph Oakland Hirschfelder, Professor of Clinical Medicine.
Stanley Stillman, Emmett Rixford, Professors of Surgery.
William Ophüls, Professor of Pathology.
*Ray Lyman Wilbur, Professor of Medicine.
William Fitch Cheney, Clinical Professor of Diseases of the Digestive System.
Oliver Peebles Jenkins, Professor of Physiology.
John Maxson Stillman, Professor of Chemistry.
Arthur William Meyer, Professor of Human Anatomy.
Frank Mace McFarland, Professor of Histology.
George Clinton Price, Professor of Zoology.
*William Freeman Snow, Associate Professor of Hygiene.
*Robert Eckles Swain, Associate Professor of Chemistry.
†Hans Zinsser, Associate Professor of Bacteriology.
James Rollin Slonaker, Assistant Professor of Physiology.
Clara S. Stoltenberg, Assistant Professor of Physiology.
†Frank Ellsworth Blaisdell, Assistant Professor of Applied Anatomy.
†Ernest Charles Dickson, Assistant Professor of Pathology.
Fred Finley Fitzgerald, Acting Instructor in Chemistry.

Admission to the Department of Medicine

Three years of collegiate work in Stanford University (approximately ninety unit hours), or its equivalent as accepted by the Committee on Advanced Standing, will be required for admission to the Department

*Absent on leave, 1909-10.
†Beginning September, 1910.

of Medicine. This preparatory training must include one year of Physics with laboratory work, one year of Chemistry with laboratory work including Qualitative Analysis, one year of Physiology or Biology with laboratory work, and French or German (such a reading knowledge as shall be acceptable to the Department of Medicine).

Candidates who are deficient in any of these specified subjects may be admitted only when they can satisfy the Committee on Academic Matters of their ability to make good this deficiency in connection with the regular work of the curriculum.

The State law governing the practice of Medicine in California prescribes that every person before practicing Medicine or Surgery must produce satisfactory testimonials of good moral character and a diploma issued by some legally chartered medical school, the requirements of which shall have been at the time of granting such diploma in no particular less than those prescribed by the Association of American Medical Colleges for that year. For the year 1909 the Association of American Medical Colleges prescribes that every medical student must be registered in a medical college or department for four years and that his preparatory course shall have included two years of Latin, two years of Mathematics, two years of English, one year of History, two years of laboratory science, and six years of further credits in languages, literature, history, or science.

Students in any department of the University who desire to enter upon the study of Medicine, and who have included in their course of study the subjects required for admission to the Medical curriculum, may, at the beginning of their fourth (or senior) year in the University, register as students of Medicine, and on completion of the first year's work in Medicine may receive the degree of Bachelor of Arts. Students entering the University with the intention of ultimately studying Medicine will note that the Department of Physiology and Histology, in its course leading to the degree of Bachelor of Arts, includes all the work preparatory to the Medical curriculum.

Men and women are admitted to the Department of Medicine on equal terms.

Candidates for the degree of Doctor of Medicine must be enrolled as students in the Department of Medicine, and must pay the fees for each of the four years of the course.

Students will be admitted to advanced standing in the department only when they have completed one year or more in a medical school of recognized standing and have satisfied the other requirements for entrance to this department.

Students of Stanford University entering the Medical Department at the beginning of their fourth or senior year at the University may retain their registration as major students of other departments as candidates for the Bachelor's degree, but they must also enroll as students of the Department of Medicine and pay the fees therein in order that their senior year may count as part of the four years' curriculum in Medicine required by the law of the State and by the University.

The Curriculum in Medicine

The required period of study for the degree of Doctor of Medicine is four years (eight semesters). The work of the first three semesters is given in Palo Alto and is devoted mainly to laboratory studies, with lectures and demonstrations, in anatomy, physiology, histology, neurology, embryology, chemistry, pharmacology, and bacteriology. The work of the last five semesters will be given in San Francisco and will be devoted mainly to work in the pathological and clinical laboratories and in the hospital wards and dispensary.

Buildings and Equipment

The buildings in San Francisco occupy four fifty-vara lots bounded by Clay, Sacramento, and Webster streets, and consist of Cooper College, containing the laboratories, lecture and clinic rooms, and Lane Hall; Lane Hospital, a modern building in brick and stone, with a capacity of one hundred and fifty beds; and the Nurses' Home. A library building will be erected as soon as the money devised for this purpose by Dr. and Mrs. Lane becomes available.

Library Facilities

The Lane Medical Library, founded by the Directors of Cooper College, as provided in the will of Mrs. Levi Cooper Lane, is housed in Cooper College building, San Francisco. It now contains about 35,000 volumes, including complete sets of many of the more important medical periodicals.

Clinical Opportunities

At the City and County Hospital in San Francisco the College controls one hundred beds, averaging about a thousand patients per year. The hospital facilities will be greatly improved with the erection of the new City and County Hospital, which the City of San Francisco is building at an expense of two million dollars. It is expected that the hospital will be completed in 1911.

Lane Hospital was designed as a teaching hospital. It has now seventy-five teaching beds, which number it is hoped to increase in the

near future. The College Dispensary averages four to five thousand new patients per year.

Hospital Internships

A large number of internships are available for graduates in Medicine in the City and County Hospital, Lane Hospital, and other hospitals in the City and State.

The Lane Lectures

The Lane Medical Lectures, begun in 1896 by Dr. Levi Cooper Lane, have furnished to students and the public an annual course of ten lectures on Medical subjects. Distinguished men from all parts of the world have appeared in this course, and the University hopes to maintain the high standard set by the College.

Fees

The tuition fees of the Medical Department are $150 per annum, payable in installments of $75 each semester; $5 per semester for the first four semesters, covering charges for anatomical material; and such other deposits to cover breakage or loss of apparatus or materials as may be required in any department or division, these deposits being returnable, less charges for breakage, loss, or wear and tear of apparatus or materials used. The total deposits for this purpose may vary from $10 to $20 per annum.

Requirements for Graduation

The candidate for the degree of Doctor of Medicine must have attained the age of twenty-one years, must be of good moral character and have shown exemplary conduct while a student in this department. He must have been enrolled and have attended a medical college of recognized standing for four years, the last of which must have been in this department. He must have satisfactorily completed the required curriculum, passed all examinations, and paid in full the required fees.

COURSES OF INSTRUCTION, FIRST AND SECOND YEARS

I. Division of Anatomy

HUMAN ANATOMY

1. Osteology.—Students will be expected to familiarize themselves thoroughly on their own initiative with the surface anatomy of the bones of the skeleton. This laboratory work will be supplemented by recitations and lectures dealing with the internal architecture, the development, growth, and regeneration of typical bones, their nutrition

and innervation, the mechanics of the skeleton as a whole, and the changes it undergoes from birth to old age. First semester

(MEYER)

2-3-4. Dissection of (2) the Head, Neck, and Thorax; (3) the Upper Extremity; (4) the Abdomen and Lower Extremity.—These courses are given simultaneously throughout the year and can be begun at any time. No one will be assigned to less than one of the above parts nor will credit be given for less, save by special arrangement.

(MEYER)

5. General Applied Anatomy.—In this course special emphasis will be laid upon the practical aspects of various portions of human anatomy and their relation to hygiene, to medicine, and to surgery and the various specialties. Particular attention will be given to surface landmarks, palpable structures, segmental distribution of nerves, modifications of the vascular and lymphatic systems, to terminal and collateral circulation, epiphyseal relations, the sympathetic system in its relation to referred pain, etc., the deep fasciæ and their relation to effusions, contractures, etc., and to topographical relations in general. Fourth semester, in San Francisco. (BLAISDELL)

6. Applied Surgical Anatomy (not Operative Surgery).—A course of laboratory work, recitations and lectures introductory to the work in surgery. Fourth semester, in San Francisco. (BLAISDELL)

7. Topographical Anatomy.—This course will be open to all students who have completed courses 1, 2, 3 and 4. The work will consist of laboratory study of frozen sections of the cadaver, made in various planes and of dissected and specially injected preparations. It is suggested that students who can afford the time supplement courses 2, 3, and 4 by the respective portions of course 7 immediately on completing the dissection of a part. Third semester, by arrangement. Elective.

8. Developmental Anomalies.—It is not the aim to exploit the rare and bizarre in this course. Until work in human embryology can be offered, however, an opportunity will here be given medical students to obtain some conception, even if necessarily inadequate, of the origin of such errors and defects in development as are most likely to come to the attention of the practicing physician. Third semester. Once a week. Elective. (MEYER)

9. The Evolution of Body Form.—A course of lectures and recitations intended for students who desire to familiarize themselves with the development of body form, its modification by age, sex, occupation, race, etc. Embryology and physical anthropology will be generously

drawn upon and the deviation of the artistic ideal from the anatomical form indicated. Offered in 1911-12, by special arrangement only. Elective. (MEYER)

10. Human Embryology.—This course will be offered as soon as adequate provision can be made. Elective.

11. Conferences on Assigned Topics.—One hour a week per group will be devoted to a discussion of various anatomical problems and obscure relations by those who are dissecting or have dissected a given part. Second semester. Elective. (MEYER)

12. Embryology.—Development of the chick through the first three days of incubation. [Course 11 in the Department of Zoology.]

2 units, 1st semester (PRICE)

Deposit Fees.—A deposit of $10, to cover damage to or loss of bones, is required of all students in Anatomy. This sum, less charges for damage or loss, is returnable at the close of the year. Students who desire to obtain their instruments at the storeroom must make a deposit of $5. Such part of this as is not drawn against will be refunded at the close of the year. Students of anatomy who are not medical students are required to make a deposit of $10 for each part assigned them.

II. DIVISION OF PHYSIOLOGY

1. Physiology of Muscle, Blood and Circulation.—An experimental course covering the ground represented in Foster's Physiology, Part I, or Howell's Text-book on the same subjects. (One lecture and five laboratory hours per week.) [Course 2 in the Department of Physiology and Histology.]

3 units, 1st semester (JENKINS, SLONAKER)

2. Physiology of Digestion, Respiration, Elimination of Wastes, Metabolism, and Nutrition.—Follows course 1. An experimental course, with Foster's Physiology, Part II, and Howell's Text-book, as texts. (One lecture and five laboratory hours per week.) [Course 3 in the Department of Physiology and Histology.]

3 units, 2d semester (JENKINS, SLONAKER)

3. Structure of the Nervous System.—The course consists of the dissection and comparative study of a series of vertebrate brains, including the human brain and cord, also the peripheral nervous system; abundant material is provided, also such necessary helps as the latest models and charts. For texts the student will use Quain, Edinger, and Barker. (One lecture and five laboratory hours per week.) [Course 4 in the Department of Physiology and Histology.]

3 units, 2d semester (STOLTENBERG)

4. Anatomy and Histology of the Sense Organs.—The course is planned to accompany course 3, the two being designed to give the gross and minute anatomy of the central nervous systems and sense organs. The texts necessary for the student's use are Quain and Barker. (One lecture and five laboratory hours per week.) [Course 5 in the Department of Physiology and Histology.]

3 units, 1st semester (STOLTENBERG)

5. Histology.—The study of the structure of the cell and its general phenomena, the fundamental tissues and the outline of their development in a comparative way, occupy the first semester. In the second, the microscopic anatomy of organs, except those of the nervous system and special senses [see courses 3 and 4], is dealt with. Elementary histological technique is taught during the course. (One lecture and six laboratory hours per week.) [Course 9 in the Department of Physiology and Histology.]

3 units, 1st and 2d semesters (MCFARLAND)

6. Physiology of the Nervous System and Sense Organs.—An experimental course in these subjects, designed to follow courses 3 and 4. Texts: Foster, Howell's Text-book. (One lecture and five laboratory hours per week.) [Course 6 in the Department of Physiology and Histology.] 3 units, 3d semester (JENKINS)

7. Journal Club.—Students in the advanced classes will be expected to meet once a week to discuss current literature in Physiology and Histology. [Course 15 in the Department of Physiology and Histology.] 1 unit, 3d semester (JENKINS)

III. Division of Chemistry

1. Organic Chemistry.—A lecture course embracing a study of the classification, structural formulæ, and properties of the more important compounds of carbon. The chemical relationships of the larger groups of organic compounds, alcohols, aldehydes, and ketones, acids, amines, and the halogen, sulphur, and nitrogen compounds will be emphasized, special attention being given throughout the course to those compounds which are of physiological and pathological interest.

3 units, 2d semester (SWAIN, FITZGERALD)

2. Toxicology.—A laboratory course, accompanied by informal lectures, dealing with the more important poisons, their physiological action and the prominent reactions employed in their identification. A search for the common poisons, based on a systematic scheme of analysis, will be made on artificially prepared materials. Students who have had no previous training in quantitative analysis will be given a

preliminary course in volumetric and gravimetric analysis. 3 afternoons, 2d semester. Optional. (Swain, Fitzgerald)

3. **Physiological Chemistry.**—A laboratory course including a preliminary study of the proteins, carbohydrates, and fats, and the action of the various digestive fluids upon them, followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. 3 afternoons, 3d semester. (Swain)

4. **Physiological Chemistry.**—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods and the elimination of waste products.

3 units, 3d semester (Swain)

[Students enrolled as Medical students will be required to deposit $10 breakage fee for the laboratory courses in Toxicology and Physiological Chemistry. Other University students will pay the usual fee of $25.]

IV. Division of Pharmacology

[Appointment and announcement to be made.]

V. Division of Pathology and Bacteriology

1. **Bacteriology.**—A practical laboratory course in Medical Bacteriology in which students become familiar with the preparation of culture media, the methods of cultivating, staining, and identifying of pathogenic bacteria. The students will also be instructed in the relation of the various bacteria to the infectious diseases and in the most important problems relating to immunity and predisposition.

3 units, 3d semester [Instructor to be appointed.]

2. **Pathological Histology.**—A laboratory course in which the students study the microscopic lesions in diseases in various organs with demonstrations of gross specimens.

3 units, 4th semester (Ophüls)

3. **General Pathology.**—A course of lectures, recitations, and demonstrations covering disturbances in circulation, regressive and progressive tissue changes, inflammation and tumors.

5 units, 4th semester (Ophüls)

VI. Division of Medicine

The Instruction in Medicine begins with the fourth semester, with practical work in Physical Diagnosis and lectures and demonstrations in Physical Therapeutics. From the fifth to the eighth semester inclusive, the general field of Medicine will be covered by means of clinics, practical demonstrations, bedside instruction, and clinical laboratory

work. As far as feasible didactic and theoretical teaching will be made secondary to demonstrations and individual work on the part of the student.

1. **Physical Diagnosis.**
   3 units, 4th semester (WILBUR)
2. **Physical Therapeutics.**
   2 units, 4th semester (WILBUR)

VII. DIVISION OF SURGERY

1. **Fractures, Dislocations, and Deformities; Principles of Surgery.**—Recitations, demonstrations, and practical work on the cadaver. 4 units, 4th semester [Instructor to be appointed.]

THE CURRICULUM

The curriculum outlined below has been provisionally adopted for the four years' work in Medicine, following three years of collegiate work which must include the prescribed pre-Medical studies (see p. 168).

	Actual Time (in hours)		Units
FIRST SEMESTER	Lec.	Lab.	of credit
Neurology—Gross and minute anatomy of the Brain and Spinal Cord	1	6	3
Histology	1	6	3
Gross Anatomy (with Dissection)		9	3
Physiology—Muscle, nerve, circulation	1	5	3
Embryology		6	2
	3	32	14
SECOND SEMESTER			
Neurology	1	6	3
Histology	1	6	3
Gross Anatomy (with Dissection)		15	5
Physiology—Digestion, respiration, nutrition, metabolism, etc.	1	5	3
Organic Chemistry	3		3
Toxicology (optional)		[9]	[3]
	6	32	17

THIRD SEMESTER (First Semester of Second Year)

	Actual Time (in hours) Lec.	Lab.	Units of credit
Bacteriology	1	6	3
Gross Anatomy (with Dissection)		6	2
Pharmacology (experimental)	2	3	3
Physiological Chemistry	3		3
Chemical laboratory (Physiological Chemistry)		9	3
Physiology — Nervous system, sense organs, etc.	1	5	3
Journal Club	1		1
	8	29	18

FOURTH SEMESTER (Second Semester of Second Year)

	Unit Periods
Applied Anatomy (Lectures and Laboratory)	3
Medicine (Physical Diagnosis, etc.)	3
Surgery (Fractures, etc.)	4
General Pathology (Lectures and Discussions)	5
Pathological Histology (Laboratory)	2
Special Anatomy (Pelvic)	2
Pharmacognosy and Prescription Writing	2
Physical Therapeutics	2
	23

FIFTH SEMESTER (First Semester of Third Year)

Medicine (Lectures and Clinics)	7
Surgery (Lectures and Clinics)	6
Special Pathology (Lectures)	2
Clinical Pathology (Laboratory)	2
Gynecology	1
Genito-Urinary Diseases	1
Pediatrics	1
Opthalmology	1
Obstetrics	2
	23

Sixth Semester (Second Semester of Third Year)

	Unit Periods
Medicine (Lectures and Clinics)	7
Surgery (Lectures and Clinics)	6
Special Pathology (Lectures)	2
Obstetrics (Lectures and Discussions)	2
Dermatology	1
Ophthalmology, etc.	1
Nervous Diseases	1
X-ray Technique, etc.	1
Gynecology	1
Pediatrics	1
	23

Seventh Semester (First Semester of Fourth Year)

Medicine (Clinic)	2
Medicine (Section work)	3
Surgery (Clinic)	2
Surgery (Section work)	3
Obstetrics (Practical)	1
Ophthalmology, etc.	2
Genito-Urinary Diseases	1
Gynecology	1
Dermatology	1
Hygiene (Lectures)	1
Psychiatry (Lectures)	1
History of Medicine (Lectures or Discussions)	1
Neurology	1
Pediatrics	1
	21

Eighth Semester (Second Semester of Fourth Year)

Medicine (Clinic)	2
Medicine (Section work)	3
Surgery (Clinic)	2
Surgery (Section work)	3
Obstetrics (Practical)	1
Ophthalmology, etc.	2
Genito-Urinary Diseases	1
Gynecology	1
Dermatology	1

Hygiene and Sanitation (Lectures) 1
Legal Medicine (Lectures) 1
History of Medicine (Lectures or Discussions) 1
Neurology 1
Pediatrics 1

21

MARINE BIOLOGICAL LABORATORY

Professors CHARLES HENRY GILBERT and OLIVER PEEBLES JENKINS, Directors.

Professor HAROLD HEATH, Assistant Professor LEONAS LANCE BURLINGAME, and Assistant FRANK WALTER WEYMOUTH.

The Laboratory buildings are located at Pacific Grove, two miles west of Monterey, and stand on a low bluff immediately facing the sea. They consist of two two-story structures capable of accommodating about eighty students, and contain four general laboratories, one lecture-room, seventeen private rooms for special investigators, and a dark-room for photography. They are provided with aquaria, running water, and all necessary facilities for biological study. The library and apparatus of the University are available for use in the Laboratory.

SESSION OF 1909

The Eighteenth Session began Monday, May 31st, and extended over a period of six weeks, closing Saturday, July 10th. The laboratory was under the general supervision of Professor HEATH.

COURSES OF INSTRUCTION

1. **General Zoology.**—An elementary course open to all students and to teachers and others who desire an acquaintance with the anatomy and life-history of marine animals and with the methods pursued in laboratory study. (HEATH)

2. **Zoology.**—Open to students who have had course 1 in Zoology or Physiology, or an equivalent. The object of this course is primarily to enable students to gain a wide general knowledge of marine forms, and to this end special attention will be devoted to collecting both along the shore at low tide and at the surface of the ocean. (HEATH)

3. **Botany.**—General Morphology of Algæ. An elementary course open to all students. The time will be divided between field work, including a study of the distribution, habits, methods of collecting,

methods of preserving, etc., of both marine and fresh water forms of the vicinity, and a systematic study of the morphology of the plants in the laboratory. (BURLINGAME)

4. Botany.—Special Algæ. Open to students who have had course 2 or an equivalent. The curriculum of this course will be adapted to the needs and wishes of the students. Prospective students are requested to confer with the instructor before registering for the course. (BURLINGAME)

Students successfully completing any of the above courses receive five units of university credit. Only one course can be taken during the session.

Laboratory Fee.—The laboratory fee is twenty-five dollars.

THE UNIVERSITY LIBRARY

GEORGE THOMAS CLARK, Librarian.
JOHN EDWARD GOODWIN, Assistant Librarian.
SYDNEY BANCROFT MITCHELL, Head of Order Department.
HELEN BINNINGER SUTLIFF, Head Cataloguer.
ALICE NEWMAN HAYS, Classifier.
HELEN LATHROP, Reference Librarian.
EDITH MARGARET COULTER, Supervisor Serial Department.

The Library is housed in the Thomas Welton Stanford Library Building, which forms the central portion of the easterly half of the outer quadrangle façade. On the main floor are the general reading rooms, with accommodations for 220 readers, the reference room, serial room, and catalogue room. On the second floor are six seminary rooms, used respectively by the Departments of Economics, English Literature, Germanic Languages, Greek, Latin, and History.

The Library is open during term time on week days from 8:00 A. M. to 10:00 P. M., except on Saturdays, when it is closed at 3:30 P. M. During the short vacations the hours are from 8:00 A. M. to 4:00 P. M., Saturdays to 12:30 P. M., and during the long vacation from 9:00 A. M. to 4:00 P. M., Saturdays 9:00 A. M. to 12:00 M. The shelves are open to members of the faculty and to students engaged in advanced work, upon the recommendation of their instructors. Books, other than works of reference, not required for class use, are lent for a period of two weeks.

Including the Law Department collection the Library contains upwards of 139,000 volumes, and the number is rapidly increasing. Note-

worthy special collections are the Timothy Hopkins Railway Library, the Thomas Welton Stanford Australasian Library, the Hildebrand Library, consisting largely of works on Germanic philology and literature, collected by the late Professor Hildebrand of Leipzig, and the David Starr Jordan Library of Zoology, consisting of several thousand volumes and pamphlets on fishes. Students may also have access to the private library of Dr. Branner, a large collection of geological works.

The Lane Medical Library, founded by the Directors of Cooper Medical College, is housed in Cooper College building, San Francisco. It contains about 35,000 volumes, including complete sets of many of the more important medical periodicals.

THE MEMORIAL CHURCH

The Rev. David Charles Gardner, Chaplain.
Godfrey Carl Buehrer, Organist.

Pending the restoration of the Memorial Church, services of public worship are held in the lecture room commonly called the University Chapel.

The following special preachers have been invited to occupy the chapel pulpit on alternate Sunday mornings:

September 12, 1909—The Rev. Bishop Samuel Fallows (Reformed), Chicago.

September 26—The Rev. I. N. McCash (Christian), Berkeley.

October 3—The Rev. W. D. Symonds (Unitarian), San Francisco.

October 17—The Rt. Rev. Bishop Spaulding (Episcopalian), Salt Lake City.

October 31—The Rev. Robert Mackenzie (Presbyterian), San Anselmo.

November 14—The Rev. J. W. Gresham (Episcopalian), San Jose.

December 5—The Rev. Albert W. Palmer (Congregational), Oakland.

January 16, 1910—The Rev. J. W. Cochran (Presbyterian), New York.

January 30—The Rt. Rev. Bishop S. C. Partridge (Episcopalian), Japan.

February 13—The Rabbi Martin Meyer (Hebrew), San Francisco.

February 20—The Rev. E. P. Dennett (Methodist), San Francisco.

March 13—The Rev. Wm. MacCormack (Episcopalian), Los Angeles.

March 20—The Rev. W. R. Hotchkiss (Friend), Africa.
April 10—The Rev. Hugh Black (Presbyterian), New York City.
April 24—The Rev. Bradford Leavitt (Unitarian), San Francisco.
May 8—The Rev. Bishop Bell (Methodist), Berkeley.
May 22—The Rev. Frederick W. Clampett (Baccalaureate Preacher), San Francisco.

UNIVERSITY CHOIR

Godfrey C. Buehrer, Organist and Director.

The University Choir sings at the regular University Services held Sunday mornings at 11 o'clock. There are three sections in the choir: choir *a*, choir *b*, and choir *c* (the instrumental section or choir orchestra). Choirs *a* and *b* sing every other Sunday only, while choir *c* plays once a month. Regarding entrance credits consult the Director.

1 unit of credit per semester

Oratorio Chorus

A large chorus, under whose auspices the annual Stanford Music Festival is given, is open to all students able to sing. One of the great masterpieces among the choral works is studied each year. The chorus rehearses one hour per week. (No credit.)

LECTURES, RECITALS, LITERARY CONTESTS, HONORS, AND CLUBS

University Lectures

Mr. Robert C. Root, '96, Los Angeles—*Peace and Arbitration.*

Mr. George A. Clark—*The Fur Seal of the Pribilafs.*

The Rev. F. P. Spaulding—*Does Marxian Socialism Involve a Denial of Christianity?*

The Rev. E. A. Wicher—*Recent Archæological Investigations in Palestine.*

President David Starr Jordan—*The Ascent of the Matterhorn.*

The Rev. Charles R. Brown, Oakland—*Abraham Lincoln.*

Musical and Dramatic Recitals

1. Presentation of *Twelfth Night,* by the English Club.
2. Presentation of Robert Planquette's *The Chimes of Normandy,* by the Schubert Club.
3. Concert by Sousa's Band.
4. Presentation of *The Road to Yesterday,* by The Masquers.
5. Minstrel Show by The Combined Musical Clubs.
6. Presentation of *The Man from Home,* by Sword and Sandals.
7. Presentation of William Gillette's *Secret Service,* by the Sophomore Class.
8. Presentation of Gilbert and Sullivan's *Iolanthe,* by the Junior Class.

University Assemblies

1. President David Starr Jordan, Mr. James Errett Shelton.
2. Mr. Walter McArthur, San Francisco—*Learning and Labor.*
3. The Hon. H. Merou, French Consul General, San Francisco.
4. President David Starr Jordan—*John Brown and Fifty Years After;* Mr. William Kent.
5. Baron Baikoku Kikuchi, President Imperial University of Kyoto.
6. Dr. Joseph W. Cochran, New York—*The Ideals of a College Man.*
7. Mr. Chester H. Rowell, Fresno—*The University Man and Public Service.*
8. President J. A. Sherer, Throop Polytechnic Institute—*The New Politics.*
9. Mr. Harris Weinstock, of Sacramento—*The People's Claim on the College Man.*
10. President David Starr Jordan—*Taking Politics Out of Politics.*

INAUGURATION OF DEPARTMENT OF MEDICINE, September 8, 1909.

Inaugural Address, by Dean HENRY ASBURY CHRISTIAN, of the Harvard Medical School—*A Career in Medicine and Present-Day Preparation for It.*

Addresses by President DAVID STARR JORDAN, representing the University, and by Dr. HENRY GIBBONS, JR., representing Cooper Medical College.

COMMENCEMENT ADDRESSES—May 19, 1909

Dean JAMES PARKER HALL, University of Chicago Law School—*Business and the Nation.*

President DAVID STARR JORDAN—*University Standards.*

UNDER AUSPICES OF DEPARTMENTS OF BOTANY

Biographical addresses on the eminent naturalists whose portraits hang on the walls of the Botanical Library, were given as follows:

March 1, 1910. President DAVID STARR JORDAN—*Francis Darwin.*

March 8. Professor WILLIAM RUSSELL DUDLEY—*Asa Gray.*

March 15. Associate Professor WILLIAM ALPHA COOPER—*Goethe.*

April 15. President DAVID STARR JORDAN—*Louis Agassiz.*

UNDER AUSPICES OF THE YOUNG MEN'S CHRISTIAN ASSOCIATION

President DAVID STARR JORDAN—*The Bible.*

Mr. J. L. KENNEDY, San Francisco—*The Bible for College Men.*

Mr. W. A. DEWITT, Berkeley—*The Larger Life.*

Mr. HENRY J. MCCOY, San Francisco—*The Y. M. C. A. for Men.*

Mr. R. O. HANSEN, San Francisco—*The Boy.*

The Rev. F. M. STEAD, Persia—*Islam.*

Mr. H. A. WILBUR, Dayton, O.—*From Dayton to Kobé.*

Mr. N. H. JACKS, Berkeley—*The Association at Work.*

Mr. H. F. HENDERSON, Los Angeles—*The Student Y. M. C. A.*

Mr. J. C. WESTENBERG, San Francisco—*The Whosoever Will Rescue Mission.*

Mr. WILLIAM BURKE, Oakland—*The Anti-Saloon League in California.*

Dr. JOSEPH W. COCHRAN, New York City—*The Laboratory Method in Religion.*

The Rev. GEORGE A. MILLER, San Jose—*Missions in the Philippines.*

The Rev. T. B. RIDGELY, China—*Educational Movements of China.*

The Rev. CHARLES R. BROWN, Oakland—*The Highest Form of Reward.*

Dr. WILLIAM OPHÜLS, San Francisco—*The Red Plague.*

Mr. Gale Seaman, Los Angeles—*The Missionary Awakening.*
Dr. T. Dwight Sloan, New York City—*The Volunteer Movement.*
The Rev. Dr. Hugh Black, New York City—*The Living Epistle.*

The Raymond Fred West Memorial Lectures on Immortality, Human Conduct, and Human Destiny

"In memory of our beloved son, Raymond Fred West, a student in Leland Stanford Junior University, who was drowned in Eel River, California, on January 16, 1906, before the completion of his college course, we wish to present to the trustees and authorities of the Leland Stanford Junior University, at Palo Alto, California, the honored Alma Mater of our son, the sum of ten thousand dollars, to be held as a fund in perpetual trust, for the establishment of a lectureship on a plan similar to the Dudleian Lectures and the Ingersoll Lectures at Harvard University.

"By this plan, in each collegiate year, or on each alternate year, at the discretion of the Board of Trustees, from one to three lectures shall be given on some phase of this subject: 'Immortality, Human Conduct, and Human Destiny.'

"It is our wish that such lectures shall not form part of the usual college or university course, nor shall they be delivered by any professor or instructor in active service in the institution. Such lecturer may be a clergyman or a layman, a member of any ecclesiastical organization, or of none, but he should be a man of the highest personal character and of superior intellectual endowment. He shall be chosen by the Faculty and the Board of Trustees of said University in such manner as the said Board of Trustees may determine, but the appointment in any case shall be made at least six months before the delivery of said lecture.

"The above sum is to be safely invested, and the interest thereof is to be divided, at the discretion of the Board of Trustees, into two parts, the one an honorarium to the lecturer, the other for the publication of said lecture, or the gratuitous distribution of a number of copies of the same if published by the author.

"The manuscript of the course of lectures shall become the property of the University, and shall be published by the University unless some other form of publication is more acceptable.

"The course of lectures shall be known as the 'Raymond Fred West Memorial Lectures on Immorality, Human Conduct, and Human Destiny.'"

In accepting this gift from the donors, Mr. and Mrs. Fred West, of Seattle, Washington, and establishing the lectureship as provided in

the terms of the gift, the University has adopted the following plan and regulations:

That these lectures be delivered on alternate years, the first in the year 1911; that the lecturer give at least three lectures; that these lectures be published in book form within not less than two years; that the lecturer have the option of publishing them himself, in which case the University will purchase a hundred copies, or of having the University publish them, in which case it will retain the copyright. In any case, the manuscript of the lecturer must be filed in the University archives;

That the honorarium given be decided in each case by the Board of Trustees, and that unless otherwise ordered the entire earnings of the West fund for the two years be devoted to honorariums and to the purpose of publication;

That the West lecturer be each time nominated by the President, with the approval of the Advisory Board, and the consent and ratification of the Board of Trustees, as is the case with ordinary appointments.

The Bonnheim Ethical Dissertations and Discussion

The purpose of the Bonnheim dissertations and discussion, as defined by the founder, Mr. Albert Bonnheim, of Sacramento, is as follows: "It is not so much desired to obtain new facts or new truths in ethics as it is to place the truth which we now have before as many students as possible, so that they will take greater interest in questions dealing with ethical problems." The competition is open to all undergraduate students of Stanford University, and is divided into two parts:

1. *The Bonnheim Dissertations.*—The general regulations governing the competition are as follows: Each competitor must deposit with the Registrar before the first day of November an essay upon the subject assigned by the committee. The essays must not be signed, but should have some mark of identification and be accompanied by a sealed envelope containing the name of the author. They must be typewritten on thesis paper of regulation size. No limit of length is prescribed, but a treatment not to exceed ten thousand words is recommended. The judges will announce the names of the five competitors who present the best Bonnheim dissertations, awarding them premiums of $25 each. But no award will be made to any essay not deemed worthy of recognition.

2. *The Bonnheim Discussion.*—The winners of the Bonnheim premiums for dissertations shall be qualified to engage in the discussion, which will be upon the same subject as the dissertations, and which

will be held the first or second week in December. The Bonnheim prize of $125 will be awarded to the speaker who in his discussion of the subject shows the clearest insight and makes the most effective presentation. Each speaker will be allowed twenty minutes.

The general subject for 1909 was "Moral Aspects of Public *versus* Private Control of Public Utilities." The judges of the dissertations were Mr. Arthur J. Pillsbury of San Francisco, the Rev. Clarence Reed of Palo Alto, and Assistant Professor Payson Jackson Treat; of the discussion, President William W. Guth of the University of the Pacific, Mr. Samuel W. Charles of Palo Alto, and Assistant Professor Howard Judson Hall. Premiums were awarded to Ernest Jerome Hopkins, R. Justin Miller, and Ernest Reynolds Purdum. The Bonnheim prize was won by R. Justin Miller.

The general subject for 1910 is "Ethical Aspects of Intercollegiate Rivalry." The essays are due at the Registrar's Office, November 10. The judges will announce the Bonnheim premiums November 23, and the discussion will take place December 2.

Intercollegiate Debate

An Intercollegiate Debate, under the auspices of the Associated Students of the University of California and of the Leland Stanford Junior University, is held in April of each year. In 1910 the debate was held at Stanford University.

The question for 1910 was, "Resolved, That in the United States Suffrage Should be Granted to Women."

The contestants were: Newton Bishop Drury, John Janney Miller, Frederick Milton Shipper, of the University of California; and Geoffrey Francis Morgan, James Errett Shelton, Paul Jay Batkin, of Stanford.

The debate was won by the University of California.

Carnot Medal

The Carnot Medal, presented by the Baron de Coubertin, for the purpose of encouraging the study and discussion, in California, of French history and politics, is awarded annually to the student who, in the opinion of the judges, proves himself the best debater in a contest held for the purpose between Stanford University and the University of California.

Under the rules of the contest a general subject for the debate was announced November 13, 1909, but the particular phase of the question, as embodied in a resolution, was not made known to the contestants until February 12, 1910, two hours before the time set for debate.

The general subject for 1909-10 was, "The Distribution of Powers in the French Government," and the particular question debated was, "*Resolved*, That the French Departments should be given substantial legislative and executive powers." The debate was held at the University of California, February 12, 1910. The contestants were NEWTON BISHOP DRURY, CHARLES KUSCH, FREDERICK MILTON SHIPPER, of the University of California; and GEOFFREY FRANCIS MORGAN, PAUL JAY BATKIN, and R. JUSTIN MILLER, of Stanford. The judges were Mr. JOSEPH S. TOBIN and Mr. SHELDON G. KELLOGG, of San Francisco, and the Rev. EDWARD L. PARSONS, of Berkeley. The medal was awarded to NEWTON BISHOP DRURY of the University of California.

THE EDWARD BERWICK JUNIOR PEACE PRIZE

Under the auspices of the California Branch of the American Peace Society, an annual prize of fifty dollars, called the Edward Berwick Junior Peace Prize, is offered for competition by students of Stanford University. The award is made to that speaker who, in a public contest, delivers the address which in the opinion of the judges is most effective in promoting the cause of international peace. In 1909 the contest was held on November 29, and the prize was awarded to Mr. R. JUSTIN MILLER.

ESSAYS ON TOTAL ABSTINENCE

In 1909, under the auspices of the Woman's Christian Temperance Union, a prize of fifty dollars was offered to Stanford students for the best essay on Total Abstinence from Alcoholic Liquors. The prize was won by R. JUSTIN MILLER '11. A similar prize is offered for 1910.

Essays in competition for this prize should contain not less than two thousand and not more than three thousand words, and should be sent to the Committee on Literary Contests on or before May 1, 1910. The particular subject proposed for the year is "The Relation of Individual Total Abstinence to the Prosperity of the Nation." The award will be made by a board of judges chosen jointly by officers of the Woman's Christian Temperance Union and the Faculty Committee on Literary Contests. No award will be made if no manuscript is deemed worthy of special recognition. The winning essay is eligible for competition for a national prize of one hundred dollars, awarded to the best manuscript of those which have already won a local award.

MEMORIAL SCHOLARSHIP

The Leland Stanford Junior Scholarship, established by Mrs. Stanford, in 1900, pays the necessary expenses of its holder throughout the

undergraduate course. The present holder of the scholarship is Mr. Francis Sitwell Pratt, of Ontario, California.

Harvard Club Scholarship

The Harvard Club of San Francisco maintains a scholarship for the purpose of aiding graduates of the University of California and of the Leland Stanford Junior University to pursue graduate work at Harvard University. Appointments to this scholarship are for one year only and are made in alternate years to graduates of the two Universities. The present income of the scholarship is $400. The holder of the Scholarship for 1909-10 is Mr. Leslie Craven, '09. Applications for appointment from this University for the academic year 1911-12 should be in the Registrar's hands on or before March 1, 1911.

The Forum

The Forum, organized in 1909, is a Faculty Club for the unofficial discussion of academic questions. The following papers were presented in 1909-10:

September 27, 1909. Assistant Professor Colbert Searles and Associate Professor George James Peirce—*Entrance Examinations.*

October 30. Mr. Almon Edward Roth—*Student Control.*

November 29. Professor Alexis Frederick Lange, of the University of California—*The Junior College and Junior Certificate as Applied at the University of California.*

December 13. Professor Guido Hugo Marx—*The Problem of the Assistant Professor.*

January 21, 1910. The Hon. Horace Davis, of the Board of Trustees, San Francisco—*The Inauguration of President Lowell of Harvard.*

February 18, 1910. Professor John Manson Stillman—*Faculty Legislation and Its Administration.*

March 11. Mr. J. H. Francis, Principal of the Los Angeles Polytechnic High School—*The Effect of the University Entrance Requirements upon California High Schools.*

March 25. President Henry Smith Pritchett, Carnegie Foundation for the Advancement of Teaching—*Some Aspects of the Carnegie Foundation for the Advancement of Teaching.*

April 14. Professor Howard Leslie Smith, of the University of Wisconsin, and Acting Professor of Law at Stanford University, 1909-10—*Life Insurance for University Professors.*

Philological Association

Professor Henry Rushton Fairclough, President.
Associate Professor Raymond Macdonald Alden, Secretary.

The University Philological Association was organized September 17, 1892, for the purpose of reading and discussing results of scientific investigations in language and literature. The membership consists of the instructors and advanced students in the different language departments in the University. The regular time of meeting is the first Thursday of each academic month, excepting September, January, and May, at 8:00 p. m. The following papers were presented during the calendar year ending April, 1910.

October 7, 1909. Professor George Hempl—*An Etruscan Inscription on a Sacrificial Bowl.*

November 4. Assistant Professor Benjamin Oliver Foster—*Certain Euphonic Embellishments in the Verse of Propertius.* Assistant Professor Albert Léon Guérard—*English as an International Language.*

December 2. Assistant Professor Henry David Gray—*The Original Version of "Love's Labour's Lost."*

February 3, 1910. Professor Augustus Taber Murray—*A Note on Homer.* Assistant Professor William Dinsmore Briggs—*The Authority of the Ben Jonson Folio of 1616.*

March 3. Professor John Ernst Matzke—*The Oldest Form of the Bevis Legend.* Associate Professor William Alpha Cooper—*A Paracelsian Passage in Goethe's Ephemerides.*

April 7. Professor Ewald Flügel—*A Report on the Chaucer Dictionary.* Professor George Hempl—*Some Venetic Inscriptions.*

Science Association

Professor Rufus Lot Green, President.
Professor Stewart Woodford Young, Vice-President.
Assistant Professor Joseph Grant Brown, Secretary.

The Science Association was organized January 17, 1894. Original investigations and papers of general interest on scientific topics are presented from time to time.

The following papers were read before the Association between April, 1909, and April, 1910:

Instructor William Arthur Hillebrand—*The Government Bureau of Standards.*

Professor James Perrin Smith—*Salient Events in the Geologic History of California.*

Professor Stewart Woodford Young—*Studies on the Crystallization of Liquids.*

Professor William Frederick Durand—*Aviation.*

President David Starr Jordan—*The International Fisheries Commission, and Its Significance.*

Professor Edward Curtis Franklin—*The Bearing of Recent Work in Radio-Activity on the Atomic Theory.*

Assistant Professor Mary Isabel McCracken—*A Case of Non-Mendelian Inheritance.*

The University Conference

President—Samson Arthur Lindauer, '10.

Vice-President—Herbert Rowell Stolz, '10.

Secretary—James Milton Wadsworth, '10.

Advisory Committee—David Paul Crawford, '10, Thomas Buck Hine, '10, Frederick William McNulty, '10, Maurice Young Malone, '10, Burchell Williams Upson, '10.

Members—Reuben Elmer Beckley, '10, Samuel Bryan, '10, Harry Putman Cramer, '09, Thurman Alden De Bolt, '10, Lowell Jay Hart, '10, Laurence Landreth Hill, '11, Ralph Leon Hughes, '10, Eugene Garrison McCann, '10, Hale McCowen, Jr., '10, Robert Clyde McFadden, '10, Floyd Calhoun Merritt, '10, Archibald Forbes Meston, '10, Geoffrey Francis Morgan, '10, John Floyd Pruett, '09, John Walter Roberts, '11, James Errett Shelton, '10, Ernest Henry Staber, '10, Arthur Fay Taggart, '09.

The University Conference is a representative body chosen by department groups from students having fifty or more units of university credit. The President of the Associated Student Body is ex-officio a member of the Conference.

Each department in which approximately forty or more men students are enrolled elects one representative for every forty men enrolled. Departments having less than forty men students are divided into groups so that the aggregate of men students shall be approximately forty in each group, and each group elects one representative.

The Conference elects from its own members a Student Advisory Committee whose duty is to deal especially with matters of discipline, using all proper influences to prevent such cases from arising, and to act on such cases in behalf of the student body, independent of any action which may be taken by the authorities of the University.

The Conference is also directed to consult with the President of the University and with the administrative committees of the University Council in regard to matters pertaining to the general welfare of the University.

LELAND STANFORD JUNIOR MUSEUM

Harry C. Peterson, Curator.
Eugene Garrison McCann, Assistant Curator.
Albert H. S. Chuck, Otto Utzinger, Archibald Forbes Meston, C. Williams, B. Kawakama, Assistants.

In 1880, Leland Stanford, Junior, then eleven years of age, accompanied his parents on a trip through Europe, and collected numerous mementoes of the places visited. In 1883, on a second trip he began to pursue this object more ambitiously, and finally with the idea of establishing a museum. The Leland Stanford Junior Museum was designed by Mrs. Stanford as a memorial to perpetuate this idea, and the various collections are mainly her gift to the Museum.

The collection made by Leland Stanford, Junior, between 1880 and 1884, has been placed in two rooms (A and B), and in room A his own arrangement is reproduced in detail. In the room adjoining (B) are found mementoes of his early life. These two rooms contain especially Egyptian bronzes, Tanagra figurines, Greek and Roman glass, armor, mosaics, Sèvres and Dresden ware, and the like.

The Memorial Room (O) was designed to contain personal mementoes of Senator and Mrs. Stanford. The collection includes ancestral portraits of the Stanford and Lathrop families; two cases devoted to the Grant family collection; racing trophies; Muybridge's first photographs of "Animals in Motion," and subsequent works; the "Last Spike," and other historical relics of the Central Pacific Railroad; a large assortment of Point, Alençon, Chantilly, Duchesse, Honiton, Valenciennes, and other laces; India shawls, fans, Worth dresses, antique jewelry, and European souvenirs.

The vestibule and upper corridor are devoted principally to statuary, old and rare books, papers, etc., including Duc de Loubat's reproductions of Aztec and Mexican manuscripts, a 16th century illuminated Turkish Koran, Lord Kingsborough's "Antiquities of Mexico," and German engravings.

The Di Cesnola Collection (rooms C and E) contains five thousand pieces of Greek and Roman pottery and glass from the Island of Cyprus.

Room F contains a collection of Venetian glassware and chandeliers, mirrors, and mosaic art pieces, the gift of Messrs. Salviati & Camerino, of Venice, Italy. Iridescent glass, Etruscan vases, Roman lamps, sculptured marble heads, and bas-reliefs of the first century were added by Mrs. Stanford.

The American collection (I) is made up of mound relics, Indian baskets, Acoma ware, utensils, Alaskan canoes, totem poles, etc. In this room is also a display of material of the stone age purchased by Mrs. Stanford in Denmark, as well as a collection of Samoan relics and war implements, given by President Jordan. The center case in this room contains practically all the implements extant of the old Mission Dolores, presented by Don Pablo Vasquez, whose father was the last major-domo of the Mission.

In the Chinese and Japanese room (K) there is a collection of bronzes, arms, china, lacquer, cabinets, musical instruments, rich embroideries, and specimens of wood-carving, including the Imperial bedroom set, a marvel in wood-carving and inlaid work.

The Japanese collection, purchased by Mrs. Stanford in 1902, consists of cloisonne, Satsuma, porcelain, embroideries, Buddhistic images, and ivory carvings. The large bronze Koro, over 300 years old, is especially noteworthy. The Corean collection, the gift of Mr. Timothy Hopkins, contains costumes, household goods, cabinets, screens, etc. Mr. Hopkins has also placed in the Museum a collection of ancient and modern coins and medals (Room F).

The Fine Arts Collections (rooms P, Q, R, U, and V) include pictures by Meissonier, Bouvier, Bonnat, Richter, Carolus-Duran, Van Wyck, Bierstadt, Ch. Landelle, Courtois, Piot, Munier, Brozik, Ricci, Humphrey Moore, Porteilje, Bradford, E. Paoletti, Mazzoni, Keith, Hill, Charles Nahl, C. T. Wilson, and many others.

The most important collection donated to the museum during recent years consists of eighty five oil paintings presented by Mr. Thomas Welton Stanford of Melbourne, Australia. These pictures include very rare canvasses and panels from such artists as Minderhout Hobbema, James Giles, R. S. A., John Frederick Herring, Lienur, Van den Houten, Francis Snyders, W. J. Laidlay, David Bates, John Varley, Julius M. Price, J. W. Ready, William Melby, James E. Meadows, Elijah Walton, F. G. S.; W. Henry, W. Kock-Kock, E. Wake Cook, T. R. Miles, Sr., John Glover, Herr Schnars-Alquist, Louis Buvelot, William Hart, William Shiels, R. S. A., S. Bird, Patrick Nasmyth, Emil Bayard, Gerard Lairesse, C. Wimmer, Salvator Rosa, G. Koken, John Weenix, Bachman, Kobell, Jr.,

Charles Stuart, Heinrich Rasch, Melchior Hondecooter, Marie Angelica Kaufman, Ten Kate, George Earl, Guardabassi, and E. G. Lewis. The collection will probably be hung in the summer of 1910, possibly in Room U. In addition to this large collection, Mr. Stanford previously donated a group of sixty oil paintings of Australian scenes, the work of I. W. Curtis, a noted artist of Australia. Many of these are now hung in Room Q.

Room V contains the Anna Lathrop Hewes collection of paintings, statuary, mosaic, etc. Ceramics collected by Mrs. Stanford include Sèvres, Dresden, Royal Berlin, Persian, Pompadour crystal, Bohemian, and numerous other wares.

Through the courtesy of Wells, Fargo & Co., all gifts intended for the Museum will be transported free of charge over their lines, in shipments of fifty pounds or less, from railroad points in California, Oregon, and Nevada, if addressed to The Curator, Leland Stanford Junior Museum, Stanford University, California.

Pending the complete restoration of the Museum building, a temporary installation of exhibits has been made in the main portion.

Museum hours: 10:00 a. m. to 5:00 p. m. except Sundays and holidays.

DEGREES CONFERRED

May, 1909; *September 11, 1908; †January 8, 1909.

BACHELOR OF ARTS

GREEK

Ruth Elizabeth Lewis
†Henriette Gilstrap Thomas
†Lester Sinclair Walbridge

LATIN

†Anne Pauline Abright
†Jessie Flavia Cogswell
Grace Burr Coolidge
Anna Shipley Cox
Hubert Samuel Hunter
†Paul Valerian Knowles
Ethel Louise Lambie
*Effie Lisle Murdock
Myrtle Alverson Newlin
Ione May Norton
Henrietta Elizabeth Russell
Iva Thomas
Della Thompson
Bessie Lee Wendling

GERMANIC LANGUAGES

Grace Rachel Beard
Mae Browne
†Albert Cobert
Alice Bertha Cuthbertson
Bernice Field
Mabel Sabrina Gray
Sarah Fay McKinley
†Beatrice M. Maine
†Jeannette Catherine Morgan
Lucile Elizabeth Otto
Iola Beatrice Quandt
*Charles Reining
†Cora Elizabeth Stager
Ruth Grace Sterne
Sylvia Della Stinson
Mary Sherburne Tower
Ruby Claire Woods

ROMANIC LANGUAGES

Hazel Lorena Michod
Mabelle Frances Osborn

ENGLISH

Hazel Mignon Binder
Mary Cecelia Brunton
Cora Era Chamberlin
Edna Grayce Davis
Aurania Ellerbeck
Italia Evans Flaus
Grace Elinor Fleming
†Katherine Sherman Hazeltine
†Florence Kauffman
Dorothea Macpherson
Minnie Frances Malloy
†Orral Matchette
Gertrude Karen Mathiason
Alvera Elizabeth Miller

ENGLISH—Cont'd.

Florence Hazel Forbes
Florence Ethel George
*Bess Gerard
Effie May Gillett
Mary Calvert Hayden
Lucia Bush Mirrielees
Beth Hazel Nash
†Yasohiko Shibamiya
Emma Angeline Weaver
†Helen Morse Wilkins

PSYCHOLOGY

Margaret Marshall

EDUCATION

James Garfield Bayley
Effie May Clarke
Joseph Orland Gossett
Katharine M. H. Hall
Edith Woodburn Patterson
Clarence Lucien Phelps
Jesse Brundage Sears
James Reed Young

HISTORY

Ruth Blodget
Mabel Lucille Cox
†John Eldridge Cushing
†Dwight Moody Davis
Edna Earle
*Harold Fitch
Helen Avery Gale
Elizabeth May Gillmore
Harry Finley Henderson
*Ella Naomi Hill
Janet Berry Houghland
†Ralph Francis Huntsberger
†Mary Emeline Hutchins
Alfred Lawrence Kocher
†Flora Elizabeth Kughen
†Jesse Warren Lilienthal, Jr.
Stella McAllister
Ruth Elizabeth McClelland
Lucile J. Newburg
Herbert Merton Ostroski
Ella Jane Patterson
Alida Vail
John Blackwood White

ECONOMICS AND SOCIAL SCIENCE

DeEstraye Cassell Boyd
Lewis Vincell Boyle, Jr.
Chang-Kwang Chao
Eldred James Clark
Alton Cooper
†Harry Carlton Green
†Thomas Brotherton Griffith
Don Stanley Haskett
John Parks Hemphill
Thomas J. Libbin
Albert George Luchsinger
Charles V. Park
Halsey Luther Rixford
Shirley Glidden Sweet
John Raymond Tuttle
Percy Friars Valentine
John Daniel Woodard

PRE-LEGAL COURSE

*John Hartwell Alvord
Thomas Tankerville Bennett
Walter William Blood
Irving King Brower
Daniel Wellman Burbank
†John Frye Chapman
Arthur Frederic Coe
Clarence Coonan
Leslie Craven
Fred William Crawford
Preston Brady Delano
†Harold Arthur Gilman
Herbert S. Goold
Beryl LaGrande Gregg
Archibald McDougal Hamilton
Henrie Granville Hill
John James Hill
†Harry Turner Hutchinson
Marion Rice Kirkwood
Shelby LaVerne Large
Allan Parker McFarland
†Daniel Victor Marceau
William Henry Masters
William Perry Mealey
Harry Lawrence Price
Girard Nye Richardson
Almon Edward Roth
Walter Slack
Lafayette John Smallpage
Roy Bales Stover
†William Christian Theile
Alexander McKnight Thompson

GRAPHIC ARTS

Mabel Claire Burke
*Eva Eleanor Dickover
Fred Leroy Holcomb
†Belle Kemp
Fannie Bruner Sandoe
Carolyn Mae VanEpps

MATHEMATICS

†Barbara Katherine Acheson
Margaret Brinton
Lora Belle Moss
Ethel Margaret Robinson
†Mabel Mary Spinner
May Viola Swift

PHYSICS

†Minerva Monteith
Edwin Stewart Pridham

CHEMISTRY

Manuel Benjamin Bairos
Alexander Macbeth Cuthbertson
Walter Hervey Gardner
Ross Wallace Harbough
Vance Hickin
Samuel Stephen Jenanyan
Anna Townsend Kennicott
Charles Nelson Leach
James Hamilton Pratt
Edward Waldo Rice
†Harry Scott Ross
Guy Wallace

BOTANY

†Edith Lillian Breton
†Lester Everett Cox
Stella Duffield Halsey
Helen Jeannette Keech
†Elsa Peterson
†Jessie Perkins Rose
†Stuart Bevier Show

PHYSIOLOGY AND HISTOLOGY

†Pauline Marie Beeger
Francis Figg-Hoblyn
Johanne Tollefine Johnson
John Floyd Pruett
Bessie Marjorie Symonds
Ethel Madelaine Watters

ZOOLOGY

Samuel Stillman Berry
Eleanor Anna Foshay
Horace Gunthorp
Hazel Claire Maddox
Ethel Mary Perkins
Genevieve Hazel Perkins
Willis Horton Rich
Ruberta Augusta Roberts
Frank Walter Weymouth

GEOLOGY AND MINING

Barnabas Bryan
Payson Dodge Burtt
†Leslie Rowell Gay
Stanley Carrollton Herold
†Wynter Blain Higley
Henry Roland Johnson
†William Koerner
Hugo Edmund Kramm
†Arthur Cleveland Luhrs
†Washington Henry Ochsner
Clarence Bristol Osborne
John Rothwell Pemberton
†Arthur Burton Shutts
William Henry Sirdevan
Richard Garbett Smith
Arthur Fay Taggart

CIVIL ENGINEERING

LeRoy Wright Barbur
†Edwin Wallace Borough
Douglass Hewitt Ferry
Harold Hansen Fitting
Edward Gilbert Gibson
Russell Platt Hastings
John Strider Hess
LeRoy McWethy
Hugh Gibson Marshall
James Frederick Pieper
Bill Read
Leon Benedict Reynolds
†John Henry Riddell
Ernest Walker Sawyer
Chester Charles Terrill
George Rowley Wells
Charles Henry Wondries
Galen Arthur Wood

MECHANICAL ENGINEERING

Carl Breer
James Maxwell Clarke
Arthur Chapin Coonradt
Robert Long Daugherty
Herbert Earnest Fuqua
James McLain Goodell
Elmer Harlan Herbert
Charles Earl Steinbeck
Archie McDonald Stevens
John Ibbotson Thompson
Percy Hixon VanEtten

ELECTRICAL ENGINEERING

Oliver Stephens Ambrose
Robert Dunbar Brooke
Henry H. Buell
Waldo Carnahan Cole
Albert Brooks Cox
Arthur Jewell Gowan
Harold McCuller Haver
Frederick Jacob Hettman
Carl McKee Hoskinson
James Owens McDonald
John Norton Miano
Chester Arthur Montgomery
Seizo Motomura
William Cuyler North
Warren Perce Smith
James Deacon Taggart
Edward Percy Tallant
Willard Thurston Tyler
Kei-ichi Yoshida

MASTER OF ARTS

LATIN

Mary Alice Balsbach, A. B.
John Wesley Combs, A. B. (Albion College).
Edna Marie Hansen, A. B.
Ada Hosford, A. B.
Esther Jean Spencer, A. B.

GERMAN

Ruth LaDow, A. B. (Randolph-Macon College).

ENGLISH

Anna Matilda Bille, A. B.
Myrtle Ethelia Harris, A. M. (Healdsburg College).
Amy Genevieve Luke, A. B.
†Ada Jane Miller, Ph. B. (University of Chicago).

EDUCATION

Harlow Verne Greenwood, A. B.
Ervin Eugene Lewis, A. B.

HISTORY

Raymond Morris Britton, A. B.
Owen Cochran Coy, Ph. B. (University of the Pacific).
Harvey Emmonds Dorr, A. B.

ECONOMICS AND SOCIAL SCIENCE

Ralph Kendall Forsyth, A. B. (Indiana University).

MATHEMATICS

Mary Elizabeth Bille, A. B.

CHEMISTRY

George DeForest Barnett, A. B.
William George Bateman, A. B.
Forrest Baker Beyer, A. B. (Yale University).
Ada Catherine Shelby, A. B. (University of Kansas).

SYSTEMATIC BOTANY

James Ira Wilson McMurphy, A. B.

ZOOLOGY

Ernest Alexander McGregor, A. B.

ENGINEER

ELECTRICAL ENGINEERING

†Masaki Kawara, A. B.
Albert Gifford Mott, A. B.

JURIS DOCTOR

Robert Henry Borland, A. B.
Clifford Lee Crowder, B. L.
Henry Garfield Jorgensen, A. B.
Dudley Daniel Sales, A. B.
Eugene Lafayette Stockwell, A. B.
John McCartney Ward, A. B.

DOCTOR OF PHILOSOPHY

ECONOMICS

Ira Brown Cross, A. B., A. M., (University of Wisconsin)

CHEMISTRY

John Pearce Mitchell, A. B., A. M.

SYSTEMATIC BOTANY

Albert Christian Herre, A. B., A. M.

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THE UNIVERSITY

[Office and office hours in parentheses]

President: David Starr Jordan. (111, 11-12, 2-3.)

Vice-President: John Casper Branner. (332, 8-12:15, 2-5.)

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Dean of Women: Evelyn Wight Allan. (203, 1:30-3:30; Thursdays at 31 Salvatierra St.)

Student Adviser: Almon Edward Roth. (45, 8:15-9, 1:30 3:30, M. W. F., 9:15-10:15, S., 9-10.)

Acting Secretary to the President: John Parks Hemphill. (112, 8:15-12:15, 1:30-4:30.)

THE DEPARTMENTS

[(1) Executive Head; (2) Secretary of Department Faculty]

Greek: Augustus Taber Murray; Edward William Hopé.

Latin: Henry Rushton Fairclough; Benjamin Oliver Foster.

Germanic Languages: George Hempl.

Romanic Languages: John Ernst Matzke; Clifford Gilmore Allen

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Education: Elwood P. Cubberley; Percy Erwin Davidson.

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Applied Mathematics: Leander Miller Hoskins.

Physics: Fernando Sanford; Joseph Grant Brown.

Chemistry: John Maxson Stillman.

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Systematic Botany: William Russell Dudley; LeRoy Abrams.

Physiology and Histology: Oliver Peebles Jenkins.

Hygiene: Royce Reed Long.*

Zoology: Charles Henry Gilbert; John Otterbein Snyder.

Entomology and Bionomics: Vernon Lyman Kellogg.

*Acting.

Geology and Mining: John Casper Branner.
Civil Engineering: Charles David Marx; Charles Benjamin Wing
Mechanical Engineering: William Frederick Durand; William Rankine Eckart.
Electrical Engineering: Harris Joseph Ryan; Samuel Barclay Charters, Jr.
Medicine: John Maxson Stillman*; Emmet Rixford.

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7. **Library:** Stillman, C. D. Marx, Kellogg, Fairclough, Adams.
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The superior number [1] indicates first semester; [2] indicates second semester.

†ABRAMS, L. R., Asst. Prof. Botany, (471, W. 10:15-11:15) 23 Salvatierra
†ADAMS, E. D., Prof. Hist.,
(230, T. Th. 11:15-11:45, W. 2-2:30) 9 Alvarado
†ALDEN, R. M., Assoc. Prof. Engl. Lit.,
(209, M. W. F. 12:15, T. 3:30) 427 Embarcadero P
Allan, (Mrs.) E. W., Dean of Women, (203, M. T. W. F. 1:30-3:30; Th. 1:30-3:30 at 31 Salvatierra) 31 Salvatierra
ALLARDICE, R. E., Prof. Math., (70, 10:15-11:45) 19 Salvatierra
ALLEN, C. G., Asst. Prof. Rom. Lang.,
(245, M. W. 9, F. 11:15) 1155 Ramona
[2]Ames, (Miss) L. E., Asst. Spanish, 651 Waverley P
†ANDERSON, M. B., Prof. Engl. Lit., (212 T. Th. 10:15) Menlo Park
†ANGELL, F., Prof. Psychol., (399, T. Th. 2-3) 1200 Bryant
Atkin, E. G., Acting Instr. Rom. Lang.,
(245, M. W. F. 10:15) 20 Lasuen
†Bahney, L. W., Instr. Metallurgy, (560, 10:30-4:30) 1080 Emerson
Bailey, L. E., Asst. Hygiene, Villa de Lagunita
Bancroft, (Mrs.) E. S., Asst. Medical Adviser,
2611 Piedmont, Berkeley B
†Barkan, A. Prof. Eye, Ear and Larynx, Butler Bldg., San Francisco S
Barnett, G. D., Instr. Chemistry, (5c, 1:30-4:30) 262 Kingsley
†BASSETT, L. E., Asst. Prof. English,
(211, M. W. F. 10:15) 9 Aibonito Ave.
[1]Bateman, W. G., Instr. Chemistry, (24c, 1:30-4:30) 12 Encina
[2]Bentley, R. C., Lecturer in Education (52, 9:15) 315 Melville P
[†BERGSTROM, J. A., Prof. Educ., (52, 9:15) 25 Salvatierra]
Bigley, (Miss) W. H., Asst. Library, 7 Salvatierra
†BINGHAM, J. W., Assoc. Prof. Law, (6, T. Th. 11:15) 334 Lincoln P
[2]Blee, C. E., Asst. Civ. Eng., 214 Emerson P

BLICHFELDT, H. F., Assoc. Prof. Math., (74) College Terrace
†Boezinger, B., Instr. German, (32) 176 Bryant P
Boezinger, (Mrs.) S., Asst. Rom. Lang., 176 Bryant P
Bohart, G. S., Asst. Chemistry, 191 Encina Hall
Bolton, (Miss) F., Acting Instr. Hygiene,
(Gym., M. W. F. 3-5) 453 Melville P
†BOLTON, H. E., Prof. Amer. Hist.,
(235, M. 10:15-10:45, Th. 2-2:30) 1010 Bryant
†Bonnell, J. K., Instr. English, (211, T. F., 9:15-10:15) 904 Cowper P
†BRANNER, J. C., Vice-Pres. and Prof. Geology,
(332, 8-12:15, 2-5) 13 Alvarado
†BRIGGS, W. D., Asst. Prof. English,
(207b, T. 11:15, Th. 2:30) 943 Bryant P
[Bristol, (Miss) S. B., Appointment Secretary, Sacramento]
†BROWN, J. G., Asst. Prof. Physics, (385) 1013 Ramona P
Buehrer, G. C., Organist, (68) 575 Lincoln P
Burbank, L., Lecturer Bionomics, Santa Rosa
[2]Burbridge, H. C., Asst. App. Math., 301 Kipling P
†Burlingame, L. L., Asst. Prof. Botany,
(429, 10:30-12) 20 Alvarado Row
Calderwood, E. M., Asst. Pres. Office, 531 Cowper P
CAMPBELL, D. H., Prof. Botany, (468) 19 Salvatierra
Campbell, H. W., Asst. Library, 117 Encina
[†CANNON, H. L., Asst. Prof. Hist., In Europe]
Caswell, A. E., Asst. Physics, 9 S. Lincoln, San Jose S
†CATHCART, A. M., Prof. Law,
(7, M. T. W. Th., 3:15-4) 1001 Ramona P
†CHARTERS, S. B., Jr., Asst. Prof. Elec. Eng.,
(507, M. T. W. Th. 1:30-4:30) 411 Lytton
†Cheney, W. F., Clinical Prof. Diseases Digestive System,
Shreve Bldg., San Francisco S
†CLARK, A. B., Assoc. Prof. Graphic Arts,
(314, M. F. 1:30-2:30) 4 Aibonito
[2]†Clark, G. A., Academic Secretary, 531 Cowper
†CLARK G. T., Librarian, (Lib., 8:30-12:30, 1:30-4:30) Menlo Heights
Clark, (Miss) L. M., Asst. History, 628 Gilman P
†Clevenger, G. H., Acting Asst. Prof. Metallurgy,
(360, 8:15-9:15, 2-4) 381 Hawthorne P
Coolidge, (Mrs.) H. B., Acting Appointment Secretary,
(118, 8:15-12:15, 1:30-4:30) University Park
†COOPER, W. A., Assoc. Prof. German, (35, T. Th. 9:15) 3 Salvatierra

[2]Corella, (Miss) L. M., Asst. Hygiene,
Coulter, (Miss) E. M., Asst. Library, 5 Salvatierra
Cramer, H. P., Asst. Physics, 128 Encina
Cramer, T. M., Asst. Chemistry, 675 Channing P
Crawford, J. P., Asst. Hygiene, 194 Encina
†Cross, C. N., Instr. Mech. Eng., (503, 1:30-4:30) 385 Waverley P
Cross, I. B., Acting Instr. Economics,
(222, M. W. F. 8:15-8:25) 106 Encina
†Cubberley, E. P., Prof. Educ.,
(51, M. W. F. 11:15-11:25, 12:15-12:30) 12 Aibonito
Cummings, E. J., Asst. Greek, 107 Encina
†Cutter, L. E., Instr. Mech. Eng., (274) 627 Webster P
Dailey, M. E., Lecturer in Education, San Jose
†Danton, G. H., Act. Asst. Prof. German,
(35, T. Th. 10:15) 21 Alvarado
Daugherty, R. L., Instr. Mech. Eng., (504, 1:30-4:30) 415 Lytton P
Davidson, P. E., Asst. Prof. Educ., (53, T. Th. 11:15) Santa Cruz Ave.
[2]Davidson, W. M., Asst. Entomology, 646 Waverley P
[2]Davis, (Miss) E. G., Asst. Hyg., 660 Waverley P
†Doane, R. W., Asst. Prof. Entomology, (434, 8:15-4) 527 Homer P
[1]Dole, S. B., Asst. Elec. Eng., 11 Lasuen
Dorr, H. E., Asst. History, 731 Univ. Ave., San Jose S
†Drew, E. R., Asst. Prof. Physics,
(384, M. W. F., 9:30-11) 1321 Waverley P
Dudley, W. R., Prof. Botany, (464-465, T. W. Th.) 222 Kingsley
Dunn, W. E., Asst. History, 6 Salvatierra
†Durand, W. F., Prof. Mech. Eng., (260, 11:15-12:15) 2 San Juan
[†Eckart, W. R., Jr., Assoc. Prof. Mech. Eng., In Europe]
[2]Edwards, L. M., Asst. App. Math., 627 Homer P
†Ellenwood, F. O., Instr. Mech. Eng., (509, 1:30-4:30) Evergreen Park
Elliott, J. E., Asst. Civil Eng., 185 Encina
†Elliott, O. L., Registrar, (117, 9-12, 2-4:30, S. 9-12) 5 Aibonito
†Elmore, J., Asst. Prof. Latin, (22 M. W. 9:15) 1134 Emerson P
[1]Endres, H., Asst. Civil Eng., 144 Encina
Evenden, E. S., Asst. Education, 117 Encina
†Ewell, E. R., Asst. Chemistry, 623 Middlefield P
†Fairclough, H. R., Prof. Latin, (22, M. F. 11-11:30) 6 Alvarado
[2]Fell, (Miss) E. W., Asst. History, 7 Alvarado
Field, (Miss) A. R., Asst. Pres. Office, 14 Salvatierra
†Fish, J. C. L., Prof. Railroad Eng.,
(269, M. W. F. 9:15, T. Th. 10:15) 1101 Emerson P

Fisher, W. K., Asst. Prof. Zoology,
(441, M. W. F. 11:15) 1525 Waverley P
†Fitzgerald, F. F., Acting Instr. Chem., 1140 Bryant P
Flaus, (Miss) I. E., Asst. English, 59 Roble
†Flügel, E., Prof. Eng. Philology, (212, T. Th. 9:15) 1153 Cowper
[2]Fogel, M. M., Asst. Entomology and Bionomics, College Terrace
†Foss, J. H., Instr. Civil Eng., (269, T. Th. 9:15) 251 Emerson P
†Foster, B. O., Asst. Prof. Latin, (22, T. 11:15) 3 Salvatierra
†Franklin, E. C., Prof. Chemistry, (35c) 1057 Ramona
Fletcher, J. M., Asst. Philosophy, 471 Melville P
Franklin, (Miss) M., Asst. Library, 1 Santa Inez
Fuqua, H. E., Asst. Mech. Eng., 129 Encina
†Gardner, D. C., Chaplain, (Vestry, T. W. Th. F. 9-12) 1a Alvarado
[2]Garfias, V. R., Asst. Civil Eng., 60 Encina
Gibbons, H. Jr., Prof. Obstetrics, 350 Post, San Francisco S
†Gilbert, C. H., Prof. Zoology, (443, 2-3) 433 Melville
†Goodwin, J. E., Asst. Librarian, (Daily 8-12, 1-4, S. 8-12) 11 Alvarado
†Gray, H. D., Asst. Prof. Eng.,
(207a, M. W. F. 11:15) 1103 Ramona P
†Green, R. L., Prof. Math., (71, T. Th. 11:15-12:15) 13 Salvatierra
†Griffin, J. O., Prof. German, (35 T. Th. 10:15-10:30) 14 Alvarado
†Guérard, A. L., Asst. Prof. Rom. Lang.,
(245, T. Th. 11:15) 37 Salvatierra
Hadden, (Miss) E., Asst. Library, 1157 Ramona P
Hall, (Miss) A. G., Asst. Library, 628 Gilman P
†Hall, H. J., Asst. Prof. Engl.,
(206, M. 1:30, T. Th. 11:15) 209 Addison P
Harcourt, R. H., Instr. Mech. Eng.,
(Forge, 8:15-4:30, S. 10:15) Palo Alto Hotel
†Harshe, R. B., Asst. Prof. Graphic Arts,
(314, M. T. W. 3:30-4:30) 7 Salvatierra
Havens, M. C., Asst. Mechanician, 465 Hamilton P
Hays, (Miss) A. N., Classifier Library, 3 Alvarado
†Heath, H., Prof. Zoology, (436, 11:30) 1147 Ramona P
Hemphill, J. P., Acting Secretary to President,
(112, 8:15-12:15, 1:30-4:30) 104 Encina
[1]Hemphill, (Miss) L. M., Asst. History, Palo Alto
†Hempl, G., Prof. Germanic Philol.,
(32, M. W. F. 9:15, Th. 2:30) 8 Aibonito
Hillebrand, W. A., Instr. Elec. Eng., (506, 9:15-11:15) 159 Encina
†Hilmer, H., Instr. German, (35, T. Th. 8:15) 243 Cowper P

Hilton, F. H., Asst. Hygiene, 81 Encina
†Hirschfelder, J. O., Prof. Clinical Medicine, 1392 Geary, San Francisco S
Hohfeld, W. N., Prof. Law, (4) 4 Alvarado
Hope, E. W., Instr. Greek, (25, M. W. F. 3:30) 428 Hamilton P
Hopkins, E. J., Asst. Library, 106 Encina
Hopler, T. M., Asst. Chemistry, 12 Alvarado
Horn, W. C., Asst. Mech. Eng., 325 Kipling P
†Hoskins, L. M., Prof. Applied Math.,
(275, 11:15-11:45) 365 Lincoln P
†Howard, B. E., Prof. Pol. Science, (223, M. W F. 11:15) 12 Dolores
[†Huberich, C. H., Prof. Law, Madison, Wis.]
Hughes, R. L., Asst. Civil Eng., 150 Encina
†Huston, C. A., Assoc. Prof. Law,
(2, M. T. W. Th. 2:30-3) 1048 Ramona P
Hyatt, (Miss) S., Asst. Physics; Acting Matron Roble Hall, Roble
Ichahashi, Y., Asst. Econ., College Terrace
James, (Miss) F. S. C., Asst. Library, 15 Salvatierra
Jameson, (Miss) E., Asst. Chemistry, 55 Roble
†Jenkins, O. P., Prof. Physiol. and Histol., (482) 3 Lasuen
[2]Jesson, R. H., Asst. Hygiene, 70 Encina
†Johnston, O. M., Assoc. Prof. Rom. Lang.,
(242, M. T. W. Th. 9-9:20) 4 Alvarado
†Jordan, D. S., President, (111, 11-12, 2-3) Xazmin Hs., Serra Ave.
Jordan, E., Asst. Applied Math., 101 Encina
Keen, (Miss) S., Asst. Dept. Geol. and Min., 1001 Cowper P
†Kellogg, V. L., Prof. Entomol., (431, 11:15-12:15) 21 Salvatierra
Killian, J., Asst. Civil Eng., 6 Salvatierra
Kimball, (Miss) A. W., Asst. English, 8 Lasuen
Knowlton, P. A., Acting Instr. Latin, (22, M. W. 9:30-10) 20 Lasuen
†Krehbiel, E. B., Assoc. Prof. Hist., (230, T. Th. 11:15) 29 Salvatierra
Lathrop, (Miss) H., Asst. Library, 23 Salvatierra
†Lenox, L. R., Prof. Anal. Chem., (40c, 2-4) Mountain View
†Lesley, E. P., Asst. Prof Mech. Eng., (266, 1:30) 22 Alvarado
†Liggett, J. B., Instr. Foundry, (8:15-12:15, 1:30-4:30) 434 Lytton P
Little, (Miss) M. H., Asst. Library, 1 Santa Inez
†Long, R. R., Instr. Hygiene, (95, 1:30-2:30) 12 Alvarado
McAllister, (Miss) S., Asst. History, 67 Roble
McCann, E. G., Asst. Hygiene, 44 Encina
[2]McClelland, J. F., Prof. Mining,
(337, T. W. Th. F. 1:30-4:30) 1001 Cowper P
McCracken, (Miss) M. I., Asst. Prof. Entomology,
(433, 8:15-12:15) 5 Salvatierra

†McDowell, J. E., Asst. Registrar, (120, 8:15-4:30) 10 Aibonito
McEwen, G. F., Asst. Physics and Applied Math., 660 Homer P
†McFarland, F. M., Prof. Histology,
(480 T. Th., 10:15, W. Th. F. 1:30-4:30) 943 Scott P
McMurphy, J. I. W., Acting Instr. Syst. Botany,
(171, T. W. Th. 8:15-12:15, 1:30-4) Schnell Hs., College Terrace
†Maloney, H. W., Instr. Physical Training,
(Gym., 10-12, 4-6) 176 Waverley P
Mann, W. M., Asst. Entomology, Schnell Hs., College Terrace
[†Manning, W. A., Asst. Prof. Appl. Math., Urbana, Ill.]
Marcus, (Miss) L., Asst. Library, 2 Roble
[†Martin, E. W., Asst. Prof. Latin, Reno, Nev.]
Martin, (Miss) L. J., Assoc. Prof. Psychology,
(401, T. Th. 4) 15 Salvatierra
Martin, P. A., Instr. European Hist.,
(230, T. 2-2:30, F. 9:15-10:15) 17 Salvatierra
†Marx, C. D., Prof. Civil Eng., (271, 8:15-9:15) 357 Kingsley
†Marx, G. H., Prof. Mech. Eng., (274, 9:15) 356 Lincoln
†Matzke, J. E., Prof. Rom. Lang.,
(242, M. 4:30, T. W. 3:30, Th. 2:30) 1211 Bryant
Meston, A. F., Asst. Hygiene, 136 Encina
†Meyer, A. W., Prof. Anatomy,
(Mus. Lab., M. T. F. 11-12) 1116 Ramona P
[2]†Millis, H. A., Asst. Prof. Economics, 751 Channing P
[1]Millsap, R. E., Asst. Civil Eng., 147 Encina
†Mitchell, J. P., Asst. Prof. Chem., (5c, 2-4) 235 Embarcadero
†Mitchell, S. B., Asst. Library, 9 Salvatierra
Mirrielees, (Miss) E. R., Asst. English, 750 Bryant P
Mobley, (Miss) B. J., Asst. Library, 619 Webster P
Moorhead, J. B., Asst., Mechanician Shop, 36 Encina
Moroney, C. J., Asst. Mech. Eng., 136 Encina
Moreno, H. C., Assoc. Prof. Applied Math.,
(40, 10:15-10:25) 1235 Webster
†Moser, C., Instr. Civ. Eng., (273, M. Th. F. 1:30-4:30) 651 Homer P
†Motley, J. M., Asst. Prof. Polit. Science, (219, 10:15) 327 Addison P
†Murray, A. T., Prof. Greek, (25, T. 11:15-12) 1019 Bryant
†Newcomer, A. G., Prof. English,
(209, T. Th. 10:15, F. 9:15) 5 Forest Court P
[†Newsom, J. F., Prof. Mining, (339) 1129 Cowper P]
†Ophüls, W., Prof. Pathology, 114 Walnut, San Francisco S
†Palmateer, T. J., Instr. Machine Shop, (8:15-4:30) Mayfield, M

Park, (Miss) H., Asst. Graphic Arts, 40 Roble
Park, C. V., Asst. Library, Faculty Club Hs.
Partridge, J. S., Lecturer in Law, Flood Building, San Francisco
†Peirce, G. J., Assoc. Prof. Botany, (466, W. 2:30) 281 Embarcadero
Pellissier, R. E., Acting Instr. Rom. Lang., (245) 17 Salvatierra
Peters, (Miss) E. C., Asst. History, 7 Alvarado
†Peterson, H. C., Curator Museum, 672 Homer P
Porter, W. S., Jr., Asst. Library, 78 Encina
Post, F. D., Asst. to Registrar, 191 Encina
Post, (Miss) M. A., Asst. to Registrar, 1112 Ramona P
†Ponzer, E. W., Acting Asst. Prof. Applied Math., (40, 10:15-11:15) 630 Lytton Ave. P
†Price, G. C., Assoc. Prof. Zool., (446) 5 Alvarado
Provines, (Miss) C. D., Asst. Library, 12 Alvarado
Pruett, J. F., Asst. Physiology, 180 Encina
Radosavljevich, P. R., Asst. Psychology, 840 Bryant P
Ram, H., Asst. English Philology, Evergreen Park
Randall, (Miss) J. L. D., Asst. Hygiene and Sys. Botany, 4 Madroño
Randall, (Miss) W. R. D., Asst. Hygiene, (92, 1:30-4:30) 4 Madroño
†Rendtorff, K. G., Assoc. Prof. German, (32, T. Th. 9:15-10:15) 1130 Bryant P
[2]Rible, (Miss) L. M., Asst. English, 14 Salvatierra
Rich, W. H., Asst. Zoology, 35 Salvatierra
Richardson, C. H., Jr., Asst. Zoology, 79 Encina
†Rixford, E., Prof. Surgery, 1795 California, San Francisco S
†Rogers, A. F., Asst. Prof. Mineralogy, (362, 10:15) 727 Cowper P
Rogers, E. A., Asst. Mech. Eng., 602 Waverley P
†Rogers, F. J., Assoc. Prof. Physics, (381, M. W. F. 9:15) 4 Lasuen
†Rolfe, H. W., Assoc. Prof. Greek, (25, M. 1:30-2:30, W. 10:15-11:15) Menlo Heights
Rose, (Miss) J. P., Asst. Syst. Botany, 706 Cowper P
Ross, P. A., Asst. Physics, 157 Encina
Roth, A. E., Student Adviser, (45, 9:15, 1:30-3:30, M. W. F. 8:15, S. 9-10) 105 Encina
Rossiter, (Miss) M., Asst. Library, 15 Lasuen
Russell, (Mrs.) T. P., Instr. English, (206) 750 Bryant P
Russell, F. M., Jr., Asst. Economics, 79 Encina
[1]Rust, E. W., Asst. Entomology, 80 Encina
†Ryan, H. J., Prof. Elec. Eng., (545, 9:30-10:30) 9 Santa Inez
†Sabine, G. H., Asst. Prof. Philosophy, (417, M. 10:15-11:15, Th. 3-4) 818 Kipling P

[2]Sanborn, R. E., Asst. Chemistry, 12 Salvatierra
†Sanford, F., Prof. Physics, (382) 450 Kingsley
†Searles, C., Asst. Prof. Rom. Lang.,
(M. W. F. 9:15, W. 11:15) 1027 Emerson P
Sears, H. J., Asst. Chemistry, 11 Alvarado
Seward, S. S. Jr., Asst. Prof. Engl.,
(208, T. Th. 12:15, W. 3:30) 262 Kingsley P
[2]Sharp, H. J., Asst. Civ. Eng., 54 Encina
Shaw, S. B., Asst. Civil Eng., 90 Encina
Sherfy, S. H., Asst. Botany, 82 Encina
†Show, A. B., Prof. Europ. Hist., (230, M. W. F. 10:15-11) 353 Melville
Short, (Miss) F. E., Asst. Education,
(56, 9-12:15, 1:30-5) 556 Lytton P
†Skinner, M. M., Asst. Prof. German,
(32, T. Th. 10:15-11:15) 10 Alvarado
†Sloan, W. H., Instr. Chemistry, (49c. 1:30-4:30) 644 Channing
†Slonaker, J. R., Asst. Prof. Physiology,
(481, M. T. Th. F. 10:30) 334 Kingsley P
†Smith, H. L., Acting Prof. Law, (1, 10:15-10:45) 374 Kingsley
†Smith, J. P., Prof. Mineral. and Paleon.,
(329, 9:15-11:15, 1:30-4:30) 1335 Cowper P
[2]Smothers, A. E., Asst. App. Math., 344 Emerson P
[†Snow, W. F., Assoc. Prof. Hygiene, Sacramento]
†Snyder, J. O., Asst. Prof. Zool., (423, 1:30-5) 1345 Cowper
Spencer, (Miss) E. J., Asst. Latin, (22, 9:15-9:25) 233 Addison P
Staber, E. H., Asst. Chemistry, 334 Waverley P
†Stanley, E. J., Instr. Woodworking, (500) 269 Hawthorne P
Starks, (Mrs.) C. L., Instr. Graphic Arts,
(Studio, T. W. Th. F. 1:30-4:30) 1115 Ramona
†Starks, E. C., Asst. Prof. Zoology, (426, 1:30-4:30) 1115 Ramona
†Stillman, J. M., Prof. Chem., (44c, 2-5) 2 Alvarado
†Stillman, S., Prof. Surgery, 2201 Buchanan, San Francisco S
Stinson, (Miss) S. D., Asst. Library, 649 Lytton P
Stoltenberg, (Miss) C. S., Asst. Prof. Physiology,
(485, M. W. 8:15-12:15, Th. F. 1:30-4:30) 12 Alvarado
Stolle, F., Asst. Anatomy, 683 Hamilton P
†Stuart, H. W., Prof. Philosophy, (416, M. 2-4, Th. 10-12) 8 Alvarado
Stuart, (Miss) M. V., Asst. Math., 6 Roble
†Suter, J. D., Instr. Applied Math.,
(40, T. Th. 9:15-10:15) 35 Salvatierra
Sutliff, (Miss) H. B., Chief Cataloguer Library, 15 Salvatierra

[†Swain, R. E., Assoc. Prof. Chem., At Yale]
Swift, (Miss) M. V., Asst. Pres. Office, 6 Madroño
Taggart, A. F., Asst. Applied Math. and Geol. and Min., 192 Encina
Talbot, S. J., Asst. Library, 1106 Bryant
Taylor, N., Asst. Civ. Eng., 6 Lasuen
Theile, W. C., Asst. Dept. Mech. Eng., 8 Salvatierra
Thompson, W. F., Asst. Entomology, 1115 Ramona P
Todd, (Miss) H. L., Asst. Library, 835 Waverley P
Topham, J. S., Asst. Library, 142 Encina
†Townley, S. D., Assoc. Prof. Applied Math.,
(40, T. Th. 9:30-10:15) 33 Salvatierra
[Townsend, (Miss) V., Acting Instr. Roble Gym., Sacramento]
†Treat, P. J., Asst. Prof. Hist.,
(230, M. W. 11:25-12, T. Th. 10:25-11) 27 Salvatierra
†Uhlman, W., Engineer, 420 Emerson P
[2]Upson, B. W., Asst. Civ. Eng., 18 Lasuen
[2]Vaughn, R. L., Asst. Civ. Eng., 359 Emerson P
[1]†Veblen, T. B., Assoc. Prof. Econ., (221, M. W. 12:15) 22 Alvarado
†Ware, S. L., Instr. History,
(233, M. W. F. 11:15, T. Th. 2:30) 17 Salvatierra
Warren, H. C., Asst. Mech. Eng., 155 Encina
Watters, (Miss) E. M., Asst. Physiology, 12 Alvarado
Weaver, E. R., Asst. Chemistry, 24 Encina
Weymouth, F. W., Asst. Physiology, 32 Encina
†Whitaker, A. C., Assoc. Prof. Econ.,
(220, 9:15, 10:15) 151 Embarcadero
Wiggins, J. H., Asst. Hygiene, 142 Encina
[†Wilbur, R. L., Prof. Medicine, In Europe]
†Williams, T. M., Medical Adviser,
(95, M. W. F. 8:30-9:15, T. W. 11:15-12:15) 2 Lasuen
†Wing, C. B., Prof. Struct. Eng., (278, 11:15) 345 Lincoln P
Wood, F. B., Asst. Pres. Office, 1757 Waverley P
Woodruff, (Miss) M. J., Stenog., Library, Mountain View, M
†Woodward, F. C., Prof. Law, (3, 2-2:30) 2 Salvatierra
[2]Wooster, R. N., Asst. App. Math., 4 Encina
†Young, A. A., Prof. Econ.,
(222, M. W. F. 10:15-10:30, M. 2-2:30) 1129 Emerson
†Young, S. W., Prof. Physical Chem.,
(46c, 9:30-12, 2-5,) Bryant and Tennyson P

BUSINESS OFFICE

Ames, E. M., Voucher Clerk.....19 Lasuen
Bain, A. J., Supt. Construction.....1106 Ramona
Beebe, H. W., Office Manager.....21 Lasuen
Blodgett, D. P., Bookkeeper.....268 Homer
Flannery, F., Clerk.....441 Emerson
Hadden, (Miss) F., Stenographer.....1157 Ramona St.
Knight, Allen, Auditor.....502 California St., S. F.
Lathrop, C. G., Treasurer and Business Manager.....Alta Vista
Monasch, D., Purchasing Agent.....Union Trust Building, S. F.
Rich, S. H., Cashier.....3180 Washington St., S. F.
Peters, C. R., Storekeeper.....Stanford University
Dorgan, M. H., Chief Plumber.....Mayfield
Freedman, S., Foreman.....Mayfield
Gaines, C. A., Chief Electrician.....466 Ruthven, Palo Alto
Sole, Chas., Labor Foreman.....Mayfield
Joy, R., Chief Engineer.....Palo Alto
Miller, C. F., Chief Gardener.....315 Lytton Ave.
Quinn, A. A., Clerk Encina.....Palo Alto
Scott, T. B., Storekeeper of Chemical Laboratory.....Mayfield
Schilling, J. C., Chief Carpenter.....529 Addison
Smith, Geo. B.....751 Ramona
Stevens, F. A., Foreman Mechanician Shop.....430 Tasso St.
Witherell, J. S., Farm Superintendent.....Stanford University

STUDENTS

Name; home residence; major subject; status; University residence; post-office. Post-office in all cases *Stanford University* except where university residence is followed by initial letter of town ('P' indicates *Palo Alto* post-office; 'Mayfield, M.' *Mayfield* post-office; etc.). Street address *Palo Alto* or *Campus* unless otherwise named.

Status—gr., graduate student; sp., special student. The figures after major subject indicate the number of units of university work completed (and counting toward the 120 units required for graduation), no account being taken of 'deferred,' 'incomplete,' or 'conditioned' work. The dagger (†) indicates unadjusted standing from other colleges and universities. (Phys.=Physics; Phyl.=Physiology.)

The superior number [1] prefixed to the name of a student indicates registration for the first semester only; [2] indicates second semester only.

[2]Abbott, Helen Stewart : Salinas,	Graph.	Roble Hall
Abbott, Kenneth Wheelock : Alameda,	Zool. 9,	16 Salvatierra
Abel, Edson Cronk : Whittier,	Pre L. 46,	9a Salvatierra
Abright, William Worden : Palo Alto,	C. E. 113,	5 Encina
[2]Acheson, Mary : Belfast, Ireland,	Germ. gr.,	Alta Vista
A. B., Royal University of Ireland, 1892.		
Achi, William Chas., Jr. : Honolulu, H. T.,	Pre L. 14,	327 Emerson
Acker, Frank V. : San Francisco,	C. E. sp. 78,	36 Encina
Adam, Edward Niles : Big Timber, Mont.,	E. E. 53,	318 Emerson P
[1]Adams, Eleanor Pitchlynn : Long Beach,	Engl. 38,	Walden
Adams, Olga : Los Angeles,	Hist. 117,	Pi Beta Phi
[1]Adams, William Welsh : Palo Alto,	Geol. 146,	160 Encina
A. B., Stanford, 1910.		
Akahoshi, Ichiji Miyata : Oakland,	Econ. 14,	Japanese Club
Akins, Charles Frederic : Redlands,	C. E. 72,	39 Encina
Albright, Elwood M. : Albuquerque, N.M.,	Engl. 9,	100 Encina
[1]Aldana, Enrique S. : Mexico City, Mex.,	Phyl. 5,	Santa Clara S
Alderton, Dorothy M. : Brooklyn, N. Y.,	Germ. 35,	Pi Beta Phi
Allen, Florence Elizabeth : Los Angeles,	Engl. † 10,	22 Lasuen
[1]Allen, Harvey Abner : Astoria, Ore.,	Bot. 40,	Kappa Alpha
Allen, Nellie : Oakland,	Hist. 38,	20 Madroño
[1]Allis, Clarence Livingston : Alhambra,	C. E. 58,	Beta Theta Pi
Allison, Louis : Oakland,	M. E. sp. 5,	318 Emerson P
Ambrose, Arthur Warren : Lockeford,	C. E. 12,	90 Encina
Ames, Lucile Eugenia : Palo Alto,	Span. 42,	651 Waverly P
Amsden, Donna Hinds : Los Angeles,	Hist. 12,	Delta Gamma

Anderson, Frank Edward : Los Angeles, E. E. 12, 949 Emerson P
Anderson, Fred'k Pope : Grosse Ile, Mich., Frn. 76, 37 Salvatierra
Anderson, Robert Edwin : San Francisco, Geol. 11, 455 University P
Andreen, Harry Mayo : Woodside, Geol. 10, Woodside R
Andresen, Ludwig Paul : Portland, Ore., Geol. 48, College Terrace
Andrews, Jesse Lee : Los Angeles, Econ. 64, 180 Encina
Andrews, Rupert Burke : San Diego, E. E. 10, Kappa Alpha
*[1]Anthony, Charles W. : Los Angeles, M. E. 404 Everett P
[2]Arakawa, Futoshi : Hilo, Hawaii, E. E. College Terrace
Arakawa, Santaro : San Francisco, C. E. 71, Japanese Club
Arbuthnot, Rachel Elsie : Dos Palos, Phyl. gr., 12 Alvarado
B. S., Doane College, 1904.
Ardzrooni, Leon : Fresno, Econ. gr., Faculty Club
A. B., Stanford, 1909.
Argabrite, Clarence Cannon : Ventura, E. E. 44, 359 Emerson
Argabrite, John Jay : Haywards, E. E. 41, 154 Encina
Argabrite, Walter Marion : Ventura, E. E. 11, Encina
Armstrong, John Watson F. : San Francisco, E. E. sp 14, 255 Lytton
Arnold, Clement Harrisse : San Francisco, Engl. 107, 16 Salvatierra
Arrell, Dell Bernie : Moline, Ill., Geol. 86, Phi Gamma Delta
Arrell, James Lee : Moline, Ill., Econ. 14, Phi Gamma Delta
Ashley, Freeland Hightower : Altadena, Engl. gr., 351 Homer P
A. B., Stanford, 1910.
Atkinson, Arthur Garret : Saratoga, C. E. 66, 1555 Emerson P
Atkinson, Irving Marshall : Saratoga, C. E. 80, 12 Encina
Atkinson, Robert Orville : San Jose, M. E.† 7, 625 Elm, San Jose S
Atwood, Mary Emily : Monrovia, Frn. 15, 15 Madroño
Avery, Harold Tolman : San Jose, C. E. 9, 260 S.14th, San Jose S
Avery, Louise : San Jose, Hist. 8, 260 S.14th, San Jose S
Ayers, Murray Chase : Pasadena, C. E. 56, 656 Bryant St P
Bagley, Flora : Burlingame, Lat. 26, Burlingame B
[2]Bahney, Luther William : Palo Alto, Geol. † 1080 Emerson
Ph.G., University of California, 1897.
Bailey, Leslie Eugene : Escondido, M.E.sp.29, Villa de Lagunita
Baker, Alfred Henry : Stevens Pt., Wis., Pre L. 12, 543 Byron P
Baker, Lois : Los Angeles, Frn. 11 Salvatierra
Baker, Samuel Carleton : San Jose, Law sp. 14, 455 University P
Ball, Bertrand Logan : Los Angeles, Econ. 58, Kappa Sigma
Ball, Carroll Doyle : San Jose, C. E. 45, 275 E. 9th, San Jose
Bangle, George Raymond : Vallejo, Econ. 6, Kappa Alpha

*Died October 31, 1909.

Banta, Earl Lott : Imperial, Econ. 70, 344 Cowper P
[1]Barbour, James Richardson : Palo Alto, Law sp., 750 Bryant P
Bardin, Ethel Ora : Salinas, Graph. 13, 19 Roble
Bardin, Hazel Jane : Salinas, Graph. 110, 47 Roble
[2]Bargar, Margaret Elizabeth : Los Angeles, Engl. gr., 315 Melville P
B. S., Rockford College, 1894.
Barkan, Otto : San Francisco, Med. gr., 381 Lincoln P
A. B., Trinity College, Oxford, 1909.
[2]Barker, Almon Charles : New Vinyard, Me., Pre L. † Palo Alto Hotel P
Barker, Gem Lee : Pacific Grove, Engl. 108, 46 Roble
[1]Barker, Hazel : Dunnigan, Hist. 15, 26 Madroño
Barkley, William Sherritt : Los Angeles, Pre L. 115, Sigma Nu
Barlow, Maybelle Bertha : Los Angeles, Hist. 92, K. Alpha Theta
Barnes, Gladys Wolcott : San Francisco, Hist. 93, 3 Roble
Barnett, George DeForest : Santa Rosa, Med. gr., 262 Kingsley
A. B., Stanford, 1906; A. M., 1909.
[1]Barnhart, Frank Dyckman Cobb : Coyote, Phyl. 10, 16 Salvatierra
Barrett, Don Carlos : Edwards, Miss., Pre L. 14, 417 Emerson
Barrett, James Taylor : Bellevue, Pa., Pre L. 14, 431 University
Barrow, Frank Elliott : Los Angeles, Pre L. 30, 113 Circle P
Barrows, Everett D. : Farmington, Wn., M. E. 75, 326 Lytton P
[2]Bartle, Kathleen : Monrovia, Engl. 11 Salvatierra
[1]Bassett, Maude Helene : Los Angeles, Hist. 72, Madroño
Bates, Marie Alice : Chevy Chase, D. C., Engl. 35, Delta Gamma
Batkin, Paul Jay : Los Angeles, Pre L. 107, 85 Encina
Batterson, Sheldon Morse : Pasadena, Pre L. 74, Delta Upsilon
Baugh, Lucile Sumners : San Jose, Hist. 66, 8 Madroño
Baumbaugh, Ernest Clair : Santa Rosa, E. E. 10, College Terrace
Baumgartner, Edward Charles : San Jose, E. E. 10, 42 Lenzen, S J S
Bayley, James Garfield : Toowomba, Aus., Educ. gr., Menlo Park
A. B., Stanford, 1909.
Bayly, George Harold : Los Angeles, Pre L. 7, Sigma Chi
Bayly, Roy Downer : Los Angeles, Econ. 24, Sigma Chi
[1]Beach, Frederick H. : Mt. Hermon, Mass., Engl. 62, 626 Gilman P
Beach, Mary : Los Angeles, Hist. 9, 8 Roble
[1]Beacock, James Carl : Campbell, Lat. 26, Campbell C
Beal, Carl Hugh : Palo Alto, Geol. 11, 459 Hamilton P
Beal, Ralph Raymond : Palo Alto, E. E. 47, 459 Hamilton P
Beall, Harry Hammond : Los Angeles, Pre L. 63, 21 Encina
[1]Beard, Harold Wilcox : Hutchinson, Kan., Econ. 120, Beta Theta Pi
A. B., Stanford, 1910.

Beardslee, Joseph Newton : Azusa,	Pre L. 42,	199 Encina
[1]Beaufait, Allen Francis : Los Angeles,	Engl. 49,	1121 Bryant
Beaver, Ella Wissie : Tulare,	Hist. 49,	S. Palo Alto
Beckley, Reuben Elmer : Ukiah,	M. E. 108,	22 Encina
Bee, Charles Everett : Cupertino,	C. E. 99,	133 Encina
Beecher, Charles Edward : Monrovia,	C. E. 9,	29 Salvatierra
[2]Beecher, Flora Belle : Santa Cruz, A. B., Stanford, 1903.	Lat. gr.,	633 Hamilton P
Beeger, Henry Albert : Redwood City,	C. E. 8,	Redwood City R
Beeger, Lulu : Redwood City,	Germ. 108,	Walden
Beharrell Helen Elizabeth : Seattle, Wn.,	Frn. 25,	Delta Delta Delta
Behrens, Edna Mabel : Redding,	Engl. 50,	401 Webster P
Belcher, Frank Baker : Pomona,	Pre L. 6,	Theta Delta Chi
Belieu, Virgil Ray : Compton,	Law sp. 73,	166 Encina
Bell, Dixie Alberta : St. Helena,	Germ. 14,	12 Roble
Bell, Linda May : St. Helena,	Hist. 90,	5 Roble
Bellah, Samuel Harrison : Hanford,	C. E. 21,	13 Encina
[1]Bellows, Virgil Franklin : Cleveland, O., A. B., Stanford, 1910.	Econ. 120,	Phi Gamma Delta
[1]Belsley, Benjamin Rudolph : Roanoke, Ill.,	C. E. † 5,	407 Waverly P
Beman, John Burris : Los Angeles,	Pre L. 41	Beta Theta Pi
Benjamin, Ray Grace : San Francisco,	Frn. 9,	13 Madroño
[1]Bennett, Gareld Eaton : Monticello, Ind.,	Pre L. 24,	Phi Gamma Delta
Bennett, Rose Margaret : San Diego,	Math. 44,	6 Madroño
Benson, Carl Henry : Redlands,	M. E. 84,	57 Encina
Berger, Alice Ruth : San Jose, A. B., Stanford, 1908.	Chem. gr.,	73N.6th,SanJoseS
Berryman, John R. Jr., : Los Angeles,	Pre L. 9,	Kappa Alpha
Beurhaus, George Henry : Tacoma, Wn.,	Chem. 12,	Phi Delta Theta
Bianchi, Adolphus Benjamin : Cambria,	Pre L. 104,	Encina
Bickel, Basil Fritz : Chicago, Ill.,	Econ. 40,	Phi Gamma Delta
Biethan, Howard Fredrick : Palo Alto,	Geol. 6,	455 University P
Bille, Elsa Margaret : Orloff,	Engl. 76,	5 Aibonito
[1]Billwiller, Ernest O. : New York, N. Y.,	C. E. 67,	139 Encina
[1]Binder, Hazel Mignon : Alameda, A. B., Stanford, 1909.	Engl. gr.,	Delta Delta Delta
Binkley, Merle Edna : Hollister,	Bot. 11,	16 Alvarado
Binkley, Tholow : Hollister,	Phyl. 93,	34 Encina
Binns, Clyde Arthur : Sandusky, O.,	E. E. 129,	Cong. Church P
Birch, Catherine Ida : Redlands,	Lat. 77,	50 Roble
Black, Sherman Lawrence : Monrovia,	Pre L. sp. 1,	193 Encina

Blanchard, Leslie : Sacramento,	Engl. 45,	Delta Delta Delta
Bland, Lotta L. : San Jose,	Phyl. 68,	13 Roble
Blee, Clarence Earl : Santa Ana,	C. E. 139,	214 Emerson P
Blee, Harry Harmon : Santa Ana,	M. E. 138,	214 Emerson P
Blethen, Taylor Jay : Kansas City, Mo.,	C. E. 8,	4 Lasuen
Bliven, Bruce Ormsby : Santa Cruz,	Engl. 61,	2 Encina
Block, Florence Hutchins : San Francisco,	Hist. 25,	Alpha Phi
[1]Blodget, Ruth : Bakersfield,	Hist. gr.,	Delta Delta Delta
A. B., Stanford, 1909.		
Blood, Chas. Newman : Esterbrook, Wyo.,	C. E. 46,	334 Waverley
Bly, Edwin Prescott : Los Angeles,	C. E. 11,	40 Encina
Bodley, Ella Mina : Palo Alto,	Germ. 41,	353 Lytton P
Boezinger, Frank : Palo Alto,	C. E. sp. 11,	176 Bryant P
Bohart, George Shambaugh : Clinton, Ia.,	Chem. 96,	191 Encina
[1]Bohland, Frank Osborn : Upland,	C. E. 5,	Phi Kappa Psi
[1]Bonnell, Cornelia : Palo Alto,	Phyl. 120,	370 Addison P
A. B., Stanford, 1910.		
Borden, Arthur Dickie : Palo Alto,	Bot. 12,	718 Bryant P
Borland, Oral William : San Bernardino,	C. E. 69,	97 Encina
Borough, Anne Elise : San Francisco,	Lat. 86,	Madroño
Bose, Surendra Mohan : Calcutta, India,	Chem. †45,	College Terrace
Bostwick, Stewart Ashley : Mill Valley,	Pre L. 43,	Theta Delta Chi
Bothwell, Earle Lewis : San Jose,	E. E. 48,	D. Kappa Epsilon
Bothwell, Zayda Edith : Salt Lake City, U.,	Germ. 108,	Delta Delta Delta
Boudinot, Edward Elias : Escondido,	C. E. 75,	190 Encina
Boughn, Sidney Lacy : Riverside,	Pre L. 8,	Theta Delta Chi
Boundey, Elwin James : San Jose,	Geol. 72,	407 Waverley P
Bowden, Mary Bethel : San Jose,	Hist. 9,	1285 Alameda, S.J.S
Bowen, Earl Lodwick : Jacksonville, Ill.,	Phyl. 11,	220 Emerson P
Bower, Albert Gordon : Salt Lake City, U.,	Phyl. 23,	Sigma Chi
Bower, Italja Mercedes : Los Angeles,	Hist. 37,	8 Madroño
Bowler, Mabel Gertrude : Los Angeles,	Frn. 83,	Delta Gamma
[2]Bowman, Robert Chapman : Pacific Grove,	Engl.	431 Univ. Ave.
Boyd, Harold Chester : San Francisco,	C. E. 11,	134 Encina
Boyd, Harold Edward : Milpitas,	Geol. 71,	118 Encina
Boyers, Luther Musson : Decatur, Ind.,	Engl. 96,	170 Encina
Boyle, John Clarendon : Escondido,	Econ. gr.,	143 Encina
A. B., Stanford, 1910.		
Boyle, Lewis Vincell, Jr., : Escondido,	Econ. gr.,	143 Encina
A. B., Stanford, 1909.		
Boyle, Margaret Louise : Escondido,	Engl. 61,	319 Addison P

Boyle, William Archdale : San Rafael, Phyl. 56, 162 Encina
Boynton, Willard Arnett : Pasadena, Econ. 4, 1028 Bryant P
Brackett, William Franklin : Pasadena, C. E. 62, 12 Encina
Bradford, Albert Grover : Eureka, Pre L. 8, 415 Lytton P
Bradley, Clarence Linn : Visalia, E. E. 121, 76 Encina
Bradley, Helen : Palo Alto, Span. 15, 645 Lytton P
Brady, Emmett James : Columbia, Phyl. 93, 158 Encina
Brainerd, Fred Lindley : Los Angeles, Chem. 11, Kappa Sigma
[2]Brainerd, Gertrude Gardner : Los Angeles, Engl. 91 Gamma Phi Beta
Branner, George Casper : Stanford Univ., Geol. 11, Delta Upsilon
[1]Brant, John Ira : New York, N. Y., Hist. † 620 High P
Brassy, Lucien Peter : San Jose, M. E. 108, Box 636 SanJose S
[1]Brayton, Martha Jane : Logan, Ia., Engl. 38, 200 Homer P
[2]Brewer, Edward Vere : Elyria, Ohio, Germ. † 11 Alvarado
Briggs, Ivon Clay : Santa Rosa, C. E. sp. 10, College Terrace
[1]Brokaw, Warren Edwin : Tacoma, Wash., Pre. L. Theta Delta Chi
Brooks, Anne : San Jose, Lat. 14, Box 354, San Jose S
Broomell, Harold Francis : Tacoma, Wn., Pre L. 7, College Terrace
[2]Brown, Adele : San Jose, Germ. 227ESanSalvadorSJS
Brown, Albert Skillman : Mendocino, C. E. 42, 22 Encina
[1]Brown, Eltinge Thornton : Los Angeles, Hist. 17, Zeta Psi
Brown, Floyd Cromwell : Selma, C. E. 39, 83 Encina
Brown, Harry Edgar : Sacramento, Econ. 63, Kappa Sigma
Brown, Marguerite : Palo Alto, Germ. 16, 331 Lincoln P
[1]Brown, Michael Francis : San Mateo, Pre L. † 39 N D st.SanMateo
A. B., Santa Clara College, 1909.
Brown, Ralph Waldo : Shawmut, C. E. 8, 255 Lytton P
Brown, Roger Houssels : Duarte, C. E. 83, Theta Delta Chi
Brown, Selden : Seattle, Wash., Econ. 10, Beta Theta Pi
Browning, Aaron Percival : S. Barbara, C. E. 43, 103 Encina
Browning, Jonathan Edmund : Ogden, U., M. E. 12, 319 Alma
[1]Brownlie, Margaret Edith : Vallejo, Lat. 34, 14 Madroño
Brunner, Julia : Alhambra, Germ. 7, 65 Roble
[2]Bryan, Samuel : Anacosta, D. C., Econ. 104, 70 Encina
Bubb, John Boulware : Palo Alto, M. E. 98, Delta Tau Delta
[1]Buchan, Dean Winslow : Waterloo, Ia., Chem. 120, 101 Waverley P
A. B., Stanford, 1910.
[1]Buck, Sylvester John : Colfax, Wash., Econ. gr., Mayfield M
A. B., Yale University, 1908.
Buckingham, Elisabeth Lee : Palo Alto, Engl. 108, 1143 Webster P
Budde, Clarmae : Marcus, Ia., Econ. 99, 537 Addison P

Budge, Alex. Gron : Grand Forks, N. D., M. E. 46, S. Alpha Epsilon
Buffum, George Mitchel : Palo Alto, Geol. 29, D. Kappa Epsilon
Buker, Earl Leroy : Ceres, E. E. 21, 196 Encina
Bull, Edith Agnes : San Francisco, Hist. 13, K. Kappa Gamma
[1]Bullis, Ileen : Los Angeles, Hist. 10, 11 Salvatierra
Bundy, Sarah Elizabeth : Westgate, Engl. 100, Gamma Phi Beta
[1]Burbank, Daniel Wellman : Santa Cruz, Law gr., 127 Encina
A. B., Stanford, 1909.
[2]Burbridge, Harry Carleton : Palo Alto, Phys. gr., 301 Kipling P
A. B., Stanford, 1908.
Burcham, William David : Stanford Univ., Geol. 61, 18 Encina
[1]Burgren, Arthur William : San Francisco, Geol. 116, Acacia
Burgunder, Robert Marcus : Colfax, Wn., Pre. L. 112, 4 Lasuen
Burke, Grace Lilian : Los Angeles, Engl. 30, Alpha Phi
Burke, Mabel Claire : Palo Alto, Graph. gr., 603 Lytton P
A. B., Stanford, 1909.
Burkhalter, Frances Cleveland, L. Angeles, Hist. 96, K. Kappa Gamma
Burkham, Eleanor Frances : San Fran., Frn. 15, 66 Roble
Burlingame, Arthur Allison : San Fran., Phyl. sp. 20, 327 Emerson P
[2]Burnett, William Wesley; Menlo Park, Law 87, Menlo Park
[2]Burns, Anna Catherine : Jerome, Idaho, Engl. 71, Roble
Burnside, Irene Frances : Des Moines, Ia., Germ. 36, Delta Gamma
Burr, Clyde Russell : Monrovia, Pre L. 49, Encina
Burrell, Florence Cotton : Oakland, Ent. 101, K. Alpha Theta
Burrell, Logan : Portland, Ore., Geol. 19, 29 Encina
Bush, George Barnard : Riverside, Pre L. 125, Encina
Butcher, William Preston : Santa Barbara, Pre L. 6, 59 Encina
Butler, Denair Adams : Colton, Pre L. 5, 19 Lasuen
[1]Byrd, Edward Leroy : Santa Barbara, E. E. 35, 9 Salvatierra
Calderwood, Everett Morse : Palo Alto, E. E. 22, 531 Cowper P
[1]Calkins, Laurance George : San Dimas, C. E. 42, 549 Cowper P
Camp, William Roswell : Palo Alto, Econ. gr., 559 Cowper P
A. B., Stanford, 1909.
Campbell, Clarence P. : Los Angeles, M. E. 38, Encina
Campbell, Helen : Palo Alto, Hist. 70, 1160 Bryant P
Campbell, Homer Ward : San Jose, Educ. 104, 117 Encina
[2]Canterbury, Ellison Robbins : Redlands, Econ. 22, Theta Delta Chi
Carden, Lester Lincoln : Santa Ana, Pre L. 54, Kappa Alpha
Carpenter, George W. G., Manton, R. I., Econ. sp. 9, 567 Forest P
Carpenter, Mark A. : Ukiah, Law sp. 57, 88 Encina
Carraher, Mortimer Bybee : Seattle, Wn., Pre L. 29, Phi Delta Theta

Carson, Marion Vroom : Palo Alto,	Engl. 90,	181 Addison P
Carson, Merwin Bishop : Palo Alto,	C. E. 53,	181 Addison P
[1]Carter, Charles Marshall : Pacific Grove,	C. E. 37,	186 Encina
Carter, Russell Brace : Los Angeles,	Pre L. 41,	Delta Upsilon
Carus, Clayton Douglas : Pasadena,	Econ. 7,	567 Forest P
[2]Carus, Evelyn Temperance : Gridley,	Engl.	551 Univ. P
Cary, Edward Guilford : Palo Alto,	Phyl. Med. sp. 85,	158 Encina
Case, Alexander Truman : Corning,	C. E. 104,	Sigma Nu
Case, Eunice : Kalama, Wash.,	Lat. 47,	16 Roble
[1]Case, Mabel : Kalama, Wash.,	Zool. 93,	Roble
Cashbaugh, James Anthony : Bishop,	Pre L. 9,	Encina
Cashbaugh, William Augustus : Bishop,	Geol. sp. 137,	46 Encina
Cass, Louis : Los Angeles,	Econ. 10,	Zeta Psi
Caswell, Albert Edward : San Jose, A. B., Stanford, 1908.	Phys. gr.,	9 S.Lincoln,S.J.S
Cates, Ella Margaret : Los Angeles,	Hist. 11,	7 Alvarado
[1]Cavalletto, James Domenic : S. Barbara,	Law sp.,	16 Salvatierra
Cecil, Neil McComas : Modesto,	C. E. 44,	19 Lasuen
Chalfant, Alice Jessie : San Jose,	Germ. 93,	604S.2dSanJoseS
Chamberlain, Kendrick : Los Angeles,	Pre L. 51,	Delta Upsilon
Chamberlin, Cora Era : San Leandro, A. B., Stanford, 1909.	Engl. gr.,	26 Madroño
Chandler, Wilbur Ray : Fresno,	Econ. 12,	60 Encina
Chapman, Alice Louise : Redlands,	Frn. 111,	53 Roble
Charlton, Howard C. : Portland, Ore.,	Math. 9,	Zeta Psi
Chase, Elmer Ellsworth, Jr. : San Jose,	Geol. 47,	Zeta Psi
Chatfield, William E. : Minneapolis, Minn.,	Geol. 6,	Chi Psi
[2]Check, Neoma : San Francisco,	Econ.	16 Alvarado
Cheda, Gilbert Ernest : San Luis Obispo,	Geol. 70,	69 Encina
Cheda, Henry Prosper : San Luis Obispo,	Geol. 59,	Encina
Childs, Grace : Redlands,	Hist. 44,	Gamma Phi Beta
Childs, Leroy : Redlands,	Bot. 9,	Phi Delta Theta
Chislett, William Jr. : Los Angeles,	Lat. 110,	5 Lasuen
Christensen, Carlo P. : Kalispell, Mont.,	E. E. 81,	318 Emerson P
Christin, Charles Alfred : San Francisco,	Pre L. 73,	Delta Upsilon
Chuck, Albert H.-S. : Heung-Shan, China,	C. E. 83,	Stanford Residence
[2]Chynoweth, Phillips : San Jose,	Econ. sp.,	2225 7th St., S.J.S
Clark, Douglas : Yreka,	Grk. 87,	625 Elm, San Jose S
Clark, Edna Ellita : Ventura,	Hist. 76,	Madroño
Clark, Eva Belle : Fresno,	Germ. 106,	Pi Beta Phi
Clark, Gladys Willamary : Gilroy,	Graph. 84,	5 Roble

Clark, Howard Dain : Escondido,	E. E. 11,	840 Bryant P
[2]Clark, Howard Hinsdale : Berea, Ky., **B. L., Berea College, 1908.**	C. E. gr.,	College Terrace
Clark, Lester Percy : Redlands,	C. E. 49,	91 Encina
Clark, Letitia Macelia : Pacific Grove, **A. B., Stanford, 1909.**	Hist. gr.,	628 Gilman P
Clark, Melissa Evelyn : St. Edward, Neb.,	Bot. 98,	16 Alvarado
Clark, Melville Nathaniel : Altadena,	E. E. 39,	1028 Byrant P
[1]Clark, Neil Coffin : Prescott, Ariz.,	Pre L. 39,	116 Encina
Clark, Paul Wesley : Alameda,	C. E.	215 Emerson P
Clark, Vernon Albert : Alameda,	Chem. 30,	5 Lasuen
[1]Clifford, Hazel Grant : Burlingame,	Zool. 43,	Delta Delta Delta
Clift, Helen Miller : San Francisco,	Hist. 55,	2 Madroño
Clithero, Electa : Boise, Idaho,	Germ. 15,	Delta Delta Delta
Close, Otha Harrison : Folsom,	Econ. 39,	415 Lytton P
Clyde, Robert William : San Francisco,	C. E. 23,	Kappa Alpha
Cobb, Norman F. : Los Angeles,	Geol. †2,	19 Lasuen
Cobert, Albert : Chicago, Ill., **A. B., Stanford, 1909.**	Educ. gr.,	Kappa Sigma
Cochran, Lex Hugh : San Bernardino,	M. E. 102,	Phi Delta Theta
Coddington, Albert Allen : San Bernardino,	M. E. 74,	97 Encina
Coffin, Chester LeRoy : Reno, Nev.,	Pre L. 10,	549 Cowper
Coffin, Emily Lee : Carson City, Nev.,	Hist. 72,	27 Madroño
Coggins, Edith Irene, Germantown, Pa.,	Econ. 13,	534 Channing P
Cohen, William B. : Cleveland, Ohio,	Pre L. 38,	80 Encina
Coleman, Emily Augusta : Tacoma, Wn.,	Hist. 12,	Alpha Phi
Coleman, Thomas Lynch : Los Angeles,	Pre L. 46,	D. Kappa Epsilon
Collier, Alice Honeyman : Portland, Ore.,	Grk. 102,	Walden
Collin, Otis Val : Santa Cruz,	Econ. 8,	Kappa Sigma
Collins, Lois Ella : Los Angeles,	Hist. 17,	K. Kappa Gamma
[2]Collins, Wallace Chase : Mill Valley,	Geol.	
Collis, William Edwin, Jr. : Chester, N.J.,	Geol. 33,	170 Encina
Coman, Mary Caroline : Palo Alto,	Engl.†14,	319 Alma P
[1]Connolly, John Henry : Vallejo,	C. E.	19 Lasuen
Conrad, Warren Cross, Jr. : Los Angeles,	Pre L. 120,	4 Lasuen
Cook, Archibald Beethoven : S. Barbara,	C. E. 98,	109 Encina
[1]Cooke, Hazel Anna : San Francisco,	Germ. 41,	Walden
[1]Cooke, Singleton Charles : San Jose,	Econ. sp.,	81 N 2d San Jose S
[2]Coombe, Ila Eloise : San Francisco,	Hist.	Madroño Hall
[1]Coombe, Mary Edith : San Francisco,	Hist. 52,	K. Kappa Gamma
Cooper, Jay T. : Woodland,	Pre L. 46,	40 Encina

Cooper, Warren Gosselin : Eureka, Geol. 8, 485 E Julian S J S
Corbet, Edward Burke : San Francisco, Geol. 31, S. Alpha Epsilon
[1]Cornell, Ruby Maude : Long Beach, Econ. 33 Salvatierra
Cosper, Elizabeth May : Tacoma, Wash., Graph. 12, 7 Alvarado
Costar, Garrison : Chico, C. E. 104, 523 Cowper P
Cottrell, Joseph Paul : Colton, Pre L. 4, 129 Encina
Couch, Mary Juanita : Vacaville, Bot. 101, 260 Homer P
Cox, Catharine Morris : San Jose, Germ. 59, 855 Chapman S J S
[2]Cozzens, Edwin : San Jose, E. E. 24, Box 529 San Jose S
Craig, John J. : Los Angeles, Law sp. 34, 21 Salvatierra
Cramer, Harry Putman : Portland, Ore., E. E. 96, 128 Encina
Cramer, Thomas Meredith : Palo Alto, Chem. 86, 675 Channing P
Crandall, Archie Cole : Palo Alto, M. E. 40, 737 Waverley P
Crandall, Carl C. : Los Angeles, C. E. 22, Kappa Sigma
Crandall, Darell : Palo Alto, Geol. 11, College Terrace
Crandall, Hector : Palo Alto, S. Bot. 9, College Terrace
[2]Crary, Allan Hodgdon : Los Angeles, Econ. 18, Kappa Sigma
Crawford, David Paul : Cupertino, C. E. 97, 71 Encina
Crawford, Fred William : San Jose, Law gr., 209 Curtner, S J S
A. B., Stanford, 1909.
Crawford, James Porter : San Jose, Phyl. 50, 194 Encina
Crellin, Earle Adair : Pleasanton, E. E. 77, Zeta Psi
Crellin, Ruth : Pleasanton, Hist. 11, Alpha Phi
Crippen, Ruth Melissa : San Diego, Hist. 31, Walden
Croghan, Margaret Anna : Eureka, Lat. gr., 481 Hamilton P
A. B., Stanford, 1910.
Cronyn, Theodore : Bernardston, Mass., C. E. †9, Pine Cottage
Crook, Welton Joseph : Melbourne, Aust., Chem. 74, 176 Waverley
Crosby, Ethel Lee : San Diego, Engl. 13, 31 Salvatierra
Cross, Donella Mary : Mayfield, Lat. 105, Evergreen Park M
[2]Crown, Frank Anton C. : Sacramento, Hist. gr., 88 Devine S. J. S
A. B., Lawrence University, 1905; M. D., Marquette University, 1906.
Crumby, Mabel : New Hartford, N. Y., Hist. 11, Delta Gamma
Cullen, Edward James : Gilroy, C. E. 61, 42 Encina
Cullen, John Francis : Gilroy, E. E. 11, 42 Encina
Cummings, Ernest John : Carpinteria, Grk. gr., 107 Encina
A. B., Occidental College, 1906.
Cunningham, Dorothy K. : Riverside, Graph. 9, 62 Roble
Cunningham, Marjorie : Riverside, Bot. 10, 29 Roble
[2]Cunningham, Mary Theresa : Los Angeles, Econ. 19 Alvarado
Cunningham, May Alice : Sacramento, Frn. gr., K. Kappa Gamma
A. B., Stanford, 1909.

[1]Currier, Ruth Leslie : Cupertino, Germ. 12, 70 Roble
Curry, Bessie Alberta : San Jose, Phyl.-Med. 101, 91S Whit.SJS
Curry, William Graham : San Francisco, Hist. 27, Kappa Alpha
[2]Curtner, Marion Lucy : Warm Springs, Engl. 20 Madroño
[2]Cuthbertson, Alice Bertha : Manchester, Germ. gr., 718 Bryant P
A. B., Stanford, 1909.

Dalzell, William Campbell : Omaha, Neb., Pre L. 26, 318 Emerson P
Das, Khagendra C. : Dacca, Bengal, India, Chem. 149, College Terrace
Davidson, Olive Marion : Colma, Hist. 22, 69 Roble
Davidson, William Mark : Porterville, Ent. gr., 646 Waverley P
A. B., Stanford, 1910.

Davis, Edna Grayce : Palo Alto, Engl. gr., 660 Waverley P
A. B., Stanford, 1909.

Davis, George William : Willits, C. E. 65, 88 Encina
Davis, Grace Maple : Redwood City, Hist. 105, Redwood City R
Davis, Henry Wilson : Palo Alto, Econ. gr., 301 Hamilton P
A. B., Frankiin University, 1894; B.D., University of Rochester, 1897.

Davis, John Allen : Los Angeles, Pre L. 44, D. Kappa Epsilon
Davis, Shelden Bacon : Stockton, Hist. 12, 5 Lasuen
Day, Norman Mayfield : San Francisco, M. E. 75, 134 Encina
DeBolt, Thurman Alden : Los Angeles, Pre L. 110, Kappa Alpha
Dennis, Dede Irma : Stanford University, Econ. 45, 19 Alvarado
Dennis, Herbert Ernest : Loveland, Colo., Phil. 70, 567 Lincoln P
Dernham, Elsie : San Francisco, Frn. 9, 1 Alvarado
Dernham, Sadie : San Francisco, Frn. 93, 1 Alvarado
Detrick, Rex Allan : Julian, E E. 11, 949 Emerson P
[1]Dickinson, Grace : Pasadena, Engl. 27, Walden
[1]Dickinson, Helen : Pasadena, Engl. 40, Walden
Dickinson, Perry Yaple : Stockton, C. E. 36, 93 Encina
Dickson, Philip West : Los Angeles, Econ. 70, Sigma Nu
Dietrich, Waldemar Fenn : San Francisco, Geol. 10, 195 Encina
Dietterle, Howard Lee : San Francisco, Pre L. 26, 65 Encina
Dingle, Charles Oscar : Woodland, C. E. 45, 53 Encina
Ditz, George Armand : Stockton, Pre L. 70, 156 Encina
Dixon, Jennie Hazel : Elk Grove, Hist. gr., 63 Roble
A. B., University of Pacific, 1909.

[1]Dixon, Joseph Scattergood : Escondido, Zool. 26, 415 Lytton P
[1]Dixon, Stanley K. : Los Angeles, Econ. sp. 29, Delta Tau Delta
Dodge, Walter Jennings : Los Angeles, E. E. 12, 10 Aibonito
Dole, Kenneth Llewellyn : Riverside, S. Bot. 78, Beta Theta Pi
[1]Dole, Sanford Ballard : Riverside, E.E. 125, Beta Theta Pi
A. B., Stanford, 1910.

[1]Domaschenz, Walter Richard : Colton, Phyl. 26, 21 Lasuen
Donahue, Elva Evelyn : Tacoma, Wash., Hist. 10, 13 Madroño
[2]Donley, James George, Jr. : Auburn, N. Y., Graph. 626 Gilman P
Donnelly, Jennie Lindsay : Truckee, Grk. 70, 16 Alvarado
Donovan, Augustine Michael : College Pk., Pre. L. 15, Chi Psi
Dooley, Nellie Irene : Chico, Hist. 10, 718 Bryant P
Doron, Joshua Webber : Corona, Chem. 35, 25 Encina
Dorr, Harvey Emmonds : San Jose, Hist. gr., San Jose S
A. B., Stanford, 1906; A. M., 1909.

Doxsee, Wilbur Harvey : Redwood City, C. E. 29, Redwood City R
[2]Doyle, Harry Edward : Ellenville, N. Y., C. E. † 18, Delta Tau Delta
Draper, Roscal Leroy : Arroyo Grande, Phyl. 13, 431 Univ. Ave. P
Drenkel, Harry Wesley : Los Angeles, Pre. L. 12, 1a Alvarado
Drew, Arthur Homer : Fresno, Pre L. 95, Sigma Chi
Driscoll, Marjorie Charles : Pasadena, Engl. 7, 9 Roble
Duff, Isabel Mary : Menlo Park, Lat. gr., Menlo Park M
A. B., Stanford, 1910.

Duff, James Leo : Menlo Park, Graph. 13, Menlo Park M
[2]Duff, Marcella Carmelita : Menlo Park, Lat. 79, Menlo Park M
Duffus, Robert Luther : Waterbury, Vt., Hist. 104, 751 Channing P
Duffus, William McG. : Waterbury, Vt., Econ. 107, 21 Alvarado
Dunham, Bertram Ray : Corona, Chem. 14, 405 Emerson
Dunham, Cornelius T. : W. Newt'n, Mass., Law sp., Phi Kappa Psi
Dunipace, Gertrude Hilda : Morgan Hill, Germ. 24, 455 Forest P
Dunlap, Carol : Hanford, Lat. 67, 20 Roble
Dunlap, Lillian Susan : Whittier, Engl. 85, Pi Beta Phi
Dunn, William Edward : Austin, Texas, Hist. gr., Sig. Alpha Epsilon
A. B., University of Texas, 1909.

Duren, Frances Mae : Bakersfield, Hist. 56, 15 Roble
Duren, Nellie Isabelle : Bakersfield, Germ. 78, 324 Emerson P
[2]Durst, Ethel Helena : Sunnyvale, Math. 46, 11 Salvatierra
Duryea, Robert Francis : Palo Alto, C E. 12, 308 Lincoln P
Dwyre, Harry Golding : Ft. Collins, Colo., C. E. 36, Sigma Nu
Dye, Theodore Cole : Dayton, Ohio, Econ. 53, Delta Tau Delta
Eames, Alfred Warner, Jr. : Honolulu, H. T., Law sp. 68, Chi Psi
[1]Earle, Edna : Los Angeles, Hist. gr., Gamma Phi Beta
A. B., Stanford, 1909.

Easler, James Marcellus T.: Los Angeles, M. E. 72, 245 Ramona P
Eastey, Julia Mildred : San Jose, Hist. 6, 2 Madroño
[2]Easton, Martin H. : Bellingham, Wn., Pre L. 325 Alma P
Eby, Ida Bel : San Jose, Hist. gr., 63 Roble
A. B., University of Pacific, 1909.

[2]Eddleman, Margaret Olive : Tropico,	Hist.	975 Hamilton P
Edmonston, Arthur Donald : Palo Alto,	C. E. 104,	727 Addison P
Edson, Reta Mary : Palo Alto,	Engl. 5,	Willow and Oak P
Edwards, Leslie Marion : Palo Alto,	E. E. 113,	627 Homer P
Edwards, Mary Constance : San Jose,	Hist. 112,	654 S. 8th, S J S
Ehrenberg, Adele : Alameda,	Engl. 65,	Walden
Ehrhorn, Adolph Edward : San Francisco,	Econ. 58,	Delta Tau Delta
Eliel, Paul : Pasadena,	Pre L. 5,	2 Encina
Elliot, Walter, Jr. : Santa Maria,	C. E. 82,	1301 Cowper P
[1]Elliott, Arthur Raymond : Pacific Grove,	M. E. 4,	185 Encina
Elliott, John Elbert : Pacific Grove,	Geol. 77,	185 Encina
Elliott, Louis Dunshee : Stanford Univ.,	Chem. 64,	5 Aibonito
Ellis, Arthur Richard T. : Milligan, Mont.,	Pre L. 9,	515 Waverley P
Ellis, Sidney Hemenway, Jr. : La Canada,	Geol. 5,	Zeta Psi
Ellsaesser, Fred : Braymer, Mo.,	Chem. 56,	405 Emerson P
Ely, Helen Elizabeth : Phoenix, Ariz.,	Engl. 70,	Delta Gamma
Emerson, Ralph Hettrick : Spokane, Wn.,	C. E. 42,	Sigma Nu
[2]Emmons, Marjorie Florence : Alameda,	Hist.	1 Alvarado
Enderle, Maurice Frank : Santa Ana,	Pre L. 44,	7 Encina
Endres, Anthony : Los Angeles,	E. E. 104,	144 Encina
Endres, Herman : Los Angeles,	M. E. 48,	144 Encina
Engelhard, Edith Goebel : Los Angeles,	Germ. 42,	Gamma Phi Beta
Erb, Benjamin Edward : Chemainus, B. C.,	Geol. 14,	Sig. Alpha Epsilon
[1]Eto, Yozo : Shizuoka, Japan,	Econ. 36,	Japanese Club
Euans, Kenneth Logan : Palo Alto,	Germ. 84,	Phi Kappa Psi
Evans, Charles Bordoe : Palo Alto,	C. E. 48,	636 Waverley P
[1]Evans, Irene Marguerite : Mountain View,	Engl. †9,	Mountain View M
Evenden, Edward Sam'l : McMinnv'le, Or.,	Educ. 100,	117 Encina
Everett, Edward, Jr. : San Francisco,	Econ. 31,	Phi Gamma Delta
Everett, Madeleine Lillyan : Denver, Colo.,	Hist. 7,	19 Alvarado
Eyer, Marguerite Knowlton : Beaumont,	Engl. 35,	Alpha Phi
[1]Faber, Marion : Peoria, Ill.,	Lat. 120,	25 Roble
A. B., Stanford, 1910.		
Fairclough, Katrine R. : Stanford Univ.,	Lat. 24,	6 Alvarado
Fallas, Roy Edwin : Los Angeles,	Phyl. 72,	202 Encina
Faltings, Volkert Fred'k : Petaluma,	Chem. 45,	625 Emerson
Farnsworth, Earle F. : Salt Lake City, U.,	Econ. 68,	Sigma Chi
Farnsworth, Lillian McLaine : Visalia,	Hist. 103,	K. Kappa Gamma
[2]Farr, Roy John : Muncy, Pa.,	Law gr.,	Acacia
A. B., Bucknell University, 1908.		
Fassett, Weston Willard : Stockton,	E. E. 49,	549 Cowper

Fatjo, Antonio Antolin : Santa Clara, Pre L. 8, Santa Clara S
Faubel, Grace : San Francisco, Hist. 33, 1 Alvarado
Fawcett, Percy Douglas : Tacoma, Wash., Pre L. 28, Theta Delta Chi
Fay, Roland Cecil : Kemeth, Kans., Law gr., Acacia
A. B., University of Kansas, 1909.

Fellows, Florence May : Los Angeles, Hist. 39, 69 Roble
Feraud, Natalie Bourgeois : Redlands, Engl. 68, Walden
Ferguson, Harold Gale : Hollywood, Pre L. 73, D. Kappa Epsilon
Ferguson, Norris R. : Eureka, M. E. 11, 415 Lytton P
Ferguson, Warren Essen : Hollywood, Pre L. 42, D. Kappa Epsilon
Field, Andrew James : San Jose, F E. 48, 16 Salvatierra
Field, A. Ruth : Los Angeles, Hist. 40, 14 Salvatierra
Fields, Arthur Lewis : Portland, Ore., Econ. sp. 4, Kappa Sigma
[2]Finney, Florella Kelso : Modesto, Phys. †, 22 Lasuen
Finney, Wallace Rolland : Modesto, M. E. 35, 19 Lasuen
Finnie, Robert Johnston : Sacramento, Pre L. 4, S. Alpha Epsilon
Fisher, George J. : Coyote, C. E. 106, 95 Encina
A. B., Santa Clara College, 1907.

Fisher, Marshall Weston : Mayfield, Educ. 100, Mayfield M
[1]Fisk, Hiram Cornell : Green Bay, Wis., Engl. 120, 20 Lasuen
A. B., Stanford, 1910.

Fitting, John Waldemar : San Francisco, C. E. 63, 18 Encina
[1]Fitzgerald, Fred Finley : Palo Alto, Chem. gr., 1140 Bryant P
A. B., Stanford, 1905; A. M., 1906.

[1]FitzGerald, Harold John : Vallejo, C. E. 19 Lasuen
Fitzgerald, Robert Emmet : Palo Alto, Law gr., 400 Pope P
A. B., Stanford, 1910.

Flagg, Lenora Enid : San Jose, Engl. 105, K. Kappa Gamma
Flaus, Italia Evans : Palo Alto, Engl. gr., 59 Roble
A. B., Stanford, 1909.

Fleming, Clarence Edwin : Los Angeles, Pre L. 6, 5 Lasuen
Fleming, Robert Charles : San Jose, Pre L. 75, 197 Encina
[1]Flentjen, Auguste C. : Los Angeles, Germ. 120, 321 Melville P
A. B., Stanford, 1910.

Fletcher, John Madison : Palo Alto, Phil. gr., 471 Melville P
A. B., Vanderbilt Univ., 1901; A. M., University of Colorado, 1904.

Fletcher, Katheryn : East Highlands, Math. 8, Kappa Alpha Theta
[1]Fletcher, William Daly : Palo Alto, C. E. 44, 55 Encina
Flickinger, Helen : Council Bluffs, Ia., Zool. 118, 19 Roble
Flickinger, Margaret : Council Bluffs, Ia., Germ. 106, 47 Roble
Flood, Hazel Dolores : Palo Alto, Hist. gr., 826 Waverley P
A. B., Stanford, 1910.

Flügel, Hildegarde : Palo Alto, Germ. 5, 1153 Cowper P
Fogel, Moses Miller : Santa Monica, Pre L. 35, College Terrace
Foley, Eupha May : Bloomington, Ind., Psych. 103, Delta Gamma
[2]Foley, Margaret Inez : San Mateo, Engl. 460 Wisnom A., S.M.S
Foote, Robert Parke : Evanston, Wyo., E. E. 88, 140 Encina
Foote, Victor Moseley : Modesto, Pre L. 58, 455 Univ. P
Forbes, James Hyde : Los Angeles, C. E. 8, Delta Upsilon
Forbes, Walter Dale : Ogden, Utah, Chem. gr., Ramona Bldg. P
A. B., Stanford, 1906.

Ford, Ernest Leland : Redlands, M. E. 80, 39 Encina
Ford, Nellie Elizabeth : Oakland, Phyl. 104, 56 Roble
Ford, Robert McFarlin : Oakland, Pre L. 126, 43 Encina
[1]Fore, Harry Adolph : Campbell, E. E. 13, Encina
Forrest, Prosper John : San Francisco, Pre L. 12, Kappa Alpha
[1]Forsyth, Ralph Kendall : Nineveh, Ind., Econ. gr., 335 Lytton P
A. B., Indiana University, 1908; A. M., Stanford, 1909.

Foshay, Eleanor Anna : Los Angeles, Zool. gr., Delta Delta Delta
A. B., Stanford, 1909.

Foster, Frederick Leland : Corona, Pre L. 9, 1230 Waverley P
Foster, George Leroy : Tacoma, Wash., Pre L. 9, 431 University P
Fowle, Helen Van de Water: Denver, Col., Engl. 72, K. Kappa Gamma
Fowler, Alice Belle : Paso Robles, Engl. 108, 18 Roble
Fowler, Katherine L. : Des Moines, Ia., Germ. 67, 214 Elm S.Mateo S
Fox, Philip Benton : Redwood City, Geol. 37, Redwood City R
Frank, Alvin H. : Los Angeles, Hist. 12, Encina
Frank, Lester Lettwich : San Francisco, Econ. 103, 171 Encina
Frank, Sydney Joseph : Chicago, Ill., Law gr., 11 Alvarado
A. B., Yale University, 1908.

Franklin, Elinor Lewis : Woodbridge, Engl. 21, 52 Roble
Frary, Ruth Thayer : San Diego, Engl. 105, Delta Delta Delta
[1]Freeman, John Charles : Santa Barbara, C. E. 33, 110 Encina
French, Norman DuGard : Thomson, Ill., Pre L. 43, Sigma Chi
Friedrick, Pauline : San Diego, Graph. 70, Delta Gamma
[1]Frolli, Albert William : Salinas, Geol. 141, 45 Encina
A. B., Stanford, 1910.

Frost, Albert A. : San Diego, Econ. 50, 21 Encina
Fuller, William Parmer, Jr. : San Fran., Pre L. 111, S. Alpha Epsilon
Fuqua, Herbert Earnest: Terre Haute, Ind., M. E. gr., 129 Encina
A. B., Stanford, 1909.

Fyfe, Andrew Douglas : Los Angeles, E. E. 12, Delta Upsilon

[1]Gabel, Alice Hermine : Palo Alto, Germ. gr., 629 Forest P
A. B., Stanford, 1908.

[1]Galvin, Reba Robins : Berkeley, Engl. 121, Delta Gamma
A. B., Stanford, 1910.
Gammon, Dell Duane : Lodi, C. E. 103, Theta Delta Chi
Gandolfo, Florence Catherine : Ventura, Germ. 105, 39 Roble
Ganong, Carl Field : Oregon City, Ore., C. E. 88, Theta Delta Chi
[2]Garcelon, Warren Robert : Colma, C. E sp., 562 S. 2nd, S. J. S
Gardner, Sydnie Aileen : Orange, Math. 12, 19 Madroño
[1]Garfias, Valentine R. : Mexico City, Mex., Geol. gr., 60 Encina
A. B., Stanford, 1907.
Garland, Grover Thomas : Los Angeles, Econ. 20, Sigma Nu
Garner, Aubrey Hamilton : Astoria, Ore., Geol. 45, 194 Encina
Garnett, Benjamin Jay : Spokane, Wash., C. E. 102, Stanford Inn
Garst, Delta Avis : Riverside, Hist. 41, Delta Delta Delta
[1]Gaskell, Ellen Sara : San Diego, Engl. 12, 335 High P
Gassaway, Gordon : Los Angeles, Pre L. 38, Kappa Alpha
Gatewood, William E. : Louisiana, Mo., Hist †6, Phi Kappa Psi
Geary, William Finlaw : Santa Rosa, Pre L. 34, Kappa Alpha
Geohegan, Helen : Pasadena, Engl. 73, 26 Roble
George, Harrison Paul : San Diego, C. E. 58, 76 Encina
George, Leslie Nash : Waukegan, Ill., Econ. 53, Phi Kappa Psi
[1]George, Melvin Frederick : Los Angeles, Econ. 123, 23 Encina
A. B., Stanford, 1910.
Gerlach, Percy Adelbert : Los Gatos, Phyl.-Med. 70, Los Gatos L
[1]Gibbons, Edward Russell : Los Angeles, Econ. 26, Delta Tau Delta
Giesy, Paul Church : Portland, Ore., Econ. 75, S. Alpha Epsilon
Gilbert, Carl Hughes : Palo Alto, Econ. 13, 433 Melville P
Gilbert, Florence : San Bernardino, Engl. 117, 17 Roble
Gilbert, Hazel Jeannette : Pasadena, Germ. 59, Gamma Phi Beta
[2]Gilbert, Mildred Louise : Sausalito, Engl. 14 Salvatierra
Gilfillan, Sermet William : Los Angeles, Econ. 18, Delta Tau Delta
Gill, Emma Gladys : San Francisco, Zool. 39, 200 Kingsley P
[2]Gillett, Effie May : Sacramento, Engl. gr., Delta Delta Delta
A. B., Stanford, 1909.
[1]Gillett, Ethel Gertrude : Sacramento, Zool. 48, Delta Delta Delta
[2]Gilmore, Earl Bell : Los Angeles, Econ. sp., 19 Lasuen
Gilmore, Ralph Rensselaer : Fair Oaks, E. E. 42, Encina
[2]Gipson, Oscar Martin : Los Angeles, [1]Pre L. sp., 329 Univ. P
Gleason, Daisy Marion : Los Angeles, Pre L. 74, Delta Delta Delta
Gleiss, Frank Julius : Los Angeles, E. E. 12, 949 Emerson P
Glendenning, Roy James : Santa Clara, Pre L. 111, 126 Encina
Gober, Helen Porter : Los Gatos, Germ. 7, K. Kappa Gamma

Goodan, Roger : Los Angeles, Pre L. 6, 21 Lasuen
Goode, Stanley Edward : Los Angeles, Pre L. 47, 67 Encina
[1]Goodhue, Carrie Amanda : Oakland, Germ. 120, 15 Salvatierra
A. B., Stanford, 1910.
Goodrich, Elizabeth Ely : San Jose, Phyl. gr., Box 1303 S. J. S
A. B., Vassar College, 1907.
Goodwin, Clarence Bernard : Sunnyvale, C. E. 42, Sunnyvale S
Goodwin, William John : Sunnyvale, C. E. 14, 332 Everett P
Gore, Thomas Edwin : Redlands, Pre L. †2, 178 Encina
Gower, Frances Anna : Los Angeles, Lat. 11, 68 Roble
Grace, Charles Stewart : Rivera, C. E. †10, 121 Encina
Gragg, Alden Orville : San Luis Obispo, Econ. 26, Theta Delta Chi
Graham, Katherine Prewitt : Hollywood, Frn. †11, Kappa Alpha Theta
Graham, Marguerite : Redlands, Educ. 35, Delta Gamma
[2]Grass, Donald Frederick : Palo Alto, Econ. gr., 170 Waverley P
A. B., Harvard University, 1889; A. M., 1899.
Green, Charles Havens : Petaluma, E. E. 11, 5 Lasuen
Green, Hazel Elizabeth : Stanford Univ., Econ. 13, 13 Salvatierra
Green, Helen : Stanford University, Hist. 93, 13 Salvatierra
Green, Karl : Enid, Okla., Engl. 13, 417 Emerson P
Green, Warren Preston : Preston, E. E. 79, 95 Encina
Greenfield, Lieurena Cole : St. Helena, Engl. 47, 10 Roble
Greenleaf, Richard W.: Waukegan, Ill., Pre L. 13, 938 Scott P
[1]Gregg, Beryl La Grande : Stanford Univ., Law gr., Evergreen Park
A. B., Stanford, 1909.
Gregg, John Price : Portland, Ore., Pre L. 13, College Terrace
Grepe, John Stanley, Jr. East Highlands, E.E. 10, Sigma Nu
Griffin, Roscoe Wadsworth : Vallejo, Pre L. 43, 19 Lasuen
Griffiths, Helen : Philadelphia, Pa. Graph. 6, 7 Alvarado
Grimes, Mark Eldon : San Jose, Law sp. 30, 147 Encina
Gross, Jeffrey : San Francisco, Econ. 12, 431 Univ. P
Grundy, Edith Florence : Cedar Falls, Ia., Lat. 76, 628 Gilman P
Guerena, Francis Louis : Sonora, Pre L. 70, 156 Encina
Gulling, Grayce Eleanor : Seneca, Graph. 10, 608 Fulton P
Gunnell, Mary Elizabeth : S. Lake C'y, U., Hist. 65, 25 Roble
[2]Guthrie, Anna Nason : San Diego, Educ. † 25 Madroño
Guthrie, Stanley Walter : Los Angeles, Pre L. 6, Delta Upsilon
[1]de Haas, Jacob A. : The Hague, Holland, Germ. 124, 1533 Waverley P
A. B., Stanford, 1910.
Hackett, Harold Arthur : Los Angeles, M. E. 13, 9 Salvatierra
Hadden, Georgina Evelyn : Palo Alto, Ent. 104, 1157 Ramona P

Hadley, Howard Irving : Santa Barbara, Pre L. 99, 197 Encina
[2]Hagerman, Alfred : Los Angeles, Econ. Beta Theta Pi
Haig, Florence Bertha : San Gabriel, Germ. 82, 30 Roble
[1]Hails, Charles Hamilton : Santa Barbara, Pre L. 64, Phi Delta Theta
[2]Hails, Raymond Richard : Santa Barbara, Econ. 23, Phi Delta Theta
Haley, Percis Coons : Palo Alto, Graph. sp. 83, 768 Bryant P
Hall, A. Juilliard : Pasadena, E. E. 11, 5 Lasuen
Hall, Frances Howey : Los Angeles, Educ. 12, Pi Beta Phi
Hall, Jessie Mary : Alameda, Hist. 9, Delta Gamma
Hall, Mary Louisa : Coosada, Ala., Math. gr., 446 Forest
A. B., Emory and Henry College, 1909.
Hall, Mortimer Louis : Pasadena, Chem. 76, 183 Encina
[1]Haller, George Francis : San Francisco, E. E. 38, 545 Bryant
Halliday, Thomas W. : Spokane, Wash., Geol. 87, Phi Delta Theta
Halsey, Stella Duffield : Honolulu, H. T., S. Bot. gr., 53 Roble
A. B., Stanford, 1909.
Ham, Helen Howard : San Bernardino, Engl. 103, 27 Roble
Hamill, Ray H. : Nampa, Idaho, Phyl. 38, 21 Salvatierra
Hamilton, Arthur Elton : Pasadena, Pre L. 76, 168 Encina
Hamilton, Robert Cecil : Pasadena, Econ. 49, 168 Encina
Hammon, Wendell C. : San Francisco, Geol. 10, Phi Delta Theta
Hammond, Clarence Bray : Palo Alto, Hist. sp. 15, 636 Webster P
Handel, Louis Walter : Buffalo, N. Y., Law. gr., 37 Salvatierra
A. B., Stanford, 1910.
Hanley, Katharine Gertrude : Los Angeles, Hist. 67, 14 Madroño
Hanna, Cornelia Alberta : Redlands, Engl. 60, K. Alpha Theta
Hanna, Jessie Ray : Los Angeles, Hist. 70, K. Alpha Theta
Hannibal, Harold Briggs : San Jose, Geol. 32, 196 Encina
[1]Hansen, Helena Gertrude : Palo Alto, Engl. 10, 563 Addison P
Hanvey, Howard G. : Berkeley, Engl. †9, Welakahao Club
Haraguchi, Tomiichi : Oakland, E. E. 12, Japanese Club
Harbaugh, Ross Wallace : Palo Alto, Med. gr., 1301 Cowper P
A. B., Stanford, 1909.
Harding, Edwin Reginald : Palo Alto, Chem. 13, 720 Hamilton P
Hardy, Georgie Saunders : San Diego, Graph. 79, 20 Madroño
[1]Harle, Hugh Coffin : New York, N. Y., Educ. 49, 9a Salvatierra
Harley, Jacob Stover : Vernfield, Pa., Engl. 103, 829 Emerson
Harned, Lela Blanche : Alhambra, Germ. 12, 36 Roble
Harrigan, John Hand : Los Angeles, Pre L. 10, Beta Theta Phi
Harrigan, Mildred H. : San Antonio, Tex., Math. 65, 101 Waverley P

[1]Harris, Miriam Alice : San Jose, Hist. 120, K. Kappa Gamma
A. B., Stanford, 1910.
Harris, Walter J. : Pasadena, C. E. 107, 412 Cowper P
Hart, Lowell Jay : Palo Alto, Law gr., 115 Alma P
A. B., Stanford, 1910.
Harvey, Thurlow Weed : Whittier, Zool. †18, 112 Circle
Haslett, Roberta : Alameda, Frn. 48, K. Kappa Gamma
Haslett, Samuel M., Jr. : Alameda, Econ. 33, Beta Theta Pi
[1]Hastings, George Palmara : Portland, Ore., Geol. sp., 841 Bryant P
Hatfield, George Juan : San Francisco, Pre L. 70, 120 Encina
Hauswirth, Frieda M. : Bern, Switzerland, Engl. 96, 324 Emerson P
[1]Havenner, Franck Roberts : Oakland, Law sp. 28, Theta Delta Chi
Hawes, Ben Merrill : Santa Cruz, Chem. 53, 173 Encina
[2]Hawkins, Lila : Prescot' Ariz., Frn. 11 Salvatierra
Hawley, George William : Portland, Ore., C. E. 7, Welakahao Club
Haworth, Forrest Leland : Palo Alto, Law sp. 62, 94 Encina
Haxo, Henry : San Francisco, Frn. 94, 515 Waverley P
[2]Hayden, Edith : Fresno, Germ. 62, 28 Madroño
Hayes, Casey Hewitt : Los Angeles, Pre L. 36, Phi Gamma Delta
Hayes, Mildred Mary : Edenvale, Engl. 63, G. Phi Beta
Hayes, Samuel John : Redlands, Econ. 95, 171 Encina
Hayward, Edna : San Carlos, Germ. 109, 4 Madroño
Hayward, Ida Rickard : Los Gatos, Engl. 71, 70 Roble
Heald, Elmer Willson : Palo Alto, Pre L. 43, 558 Hawthorne P
Heald, Ethel Grace : Palo Alto, Germ. 11, 558 Hawthorne P
Heartt, Jennie Alice : Los Angeles, Engl. 66, G. Phi Beta
Hebert, Joseph Walter : San Jose, Pre L. 30, 338N.2d,SanJoseS
Heche, Arthur : Pomona, Educ. 107, 430 Kipling P
[1]Hedemann, Edmund : Woodland, Econ. 8, Phi Gamma Delta
Heflinger, Grace Katherine : Pasadena, Graph. 64, 10 Roble
[1]Hehr, Martha Marie : Brooklyn, N. Y., Germ. gr., 22 Lasuen
A. B., St. Lawrence University, 1907.
Hellmann, Richard Hoge: Redwood City, Pre L. 63, Kappa Alpha
Helsley, Gordon Friedrich : Ceres, Phyl. 60, 181 Encina
Helwagen, Carl Wilhelmj : Circlev'le, Ohio, Geol. 6, College Terrace
Hempl, Hilda : Stanford University, Zool. 7, 8 Aibonito
[1]Henderson, Charles Wm. : Portland, Ore., Geol. 133, Phi Gamma Delta
Henderson, James William : Eureka, Pre L. 42, S. Alpha Epsilon
[1]Henley, Victor H. : Mayfield, E. E. 12, Evergreen Park
Henry, Thomas Cecil : Los Angeles, Econ. 88, D. Kappa Epsilon
Henshaw, Marshall Brooke : Downey, Pre L. 45, 49 Encina

[1]Herdman, Mary Gertrude : Palo Alto,	Span. 9,	Pi Beta Phi
Herron, Mary Louise : Palo Alto,	Hist. 45,	188 Bryant P
Hertel, Elmer Louis : Pasadena,	Hist. 63,	Zeta Psi
Hess, Harry Lee : Baltimore, Md.,	M. E. 110,	160 Encina
[2]Hewitt, Frank Clark : Tacoma, Wash.,	Span. †	Univ. Hotel
Hibben, John Severy : Pasadena,	Phyl. 13,	305 Alma
Higgins, Archibald W. : Shrewsbury, Eng.,	E. E. sp. 11,	909 Univ. P
Higgins, James Edwin, Jr. : Alameda,	Pre L. 61,	Kappa Sigma
[1]Higgins, Sydney Marshall : Los Angeles,	Econ. 36,	Beta Theta Pi
High, Helen Elisabeth : Pasadena,	Phys. 73,	51 Roble
[1]Hilby, Francis Bernard : Monterey,	E. E. 79,	59 Encina
Hilby, George Robert : Monterey,	E. E. 8,	59 Encina
Hill, Andrew Putnam, Jr. : San Jose,	Educ. 8,	9 Encina
Hill, Frank Ernest : San Jose,	Engl. 73,	9 Encina
[1]Hill, John James : Riverside, A. B., Stanford, 1909.	Law gr.,	141 Encina
Hill, Laurance Landreth : Los Angeles,	Econ. 59,	56 Encina
[1]Hill, Walter Hamilton : Hemet, A. B., Stanford, 1910.	Chem. 120,	Delta Tau Delta
Hiller, Hazel Heloise : Palo Alto,	Hist. 39,	1 Alvarado
Hilton, Frank Howard : San Diego,	Pre L. 68,	81 Encina
Hinckley, Clive Sturges : Redlands,	Phyl. 68,	21 Lasuen
Hindle, Dorothy Marian : Vista,	Math. 13,	67 Roble
Hine, Thomas Buck : Eureka,	Chem. 112,	130 Encina
Hjelm, Lillian Elizabeth : Los Angeles,	Econ. 12,	Delta Delta Delta
Hocking, Adeline : San Jose,	Math. 74,	577 Univ., S J S
Hodge, Mary Ashmun : San Diego, A. B., Stanford, 1903.	Med. gr.,	1221 Waverley P
Hofer, Laurence : Salem, Ore.,	Engl. 13,	Sigma Chi
Hoff, Eva : San Diego,	Germ. 104,	54 Roble
[1]Hoffmann, Melzar Stone : Santa Cruz,	C. E. 10,	Kappa Sigma
Holcomb, Grant : San Bernardino,	Pre L. 75,	183 Encina
Holditch, George Edward : Orange,	E. E. 22,	Encina
Holeman, George Stevenson : Riverside,	Phyl. 35,	7 Encina
Hollensteiner, Arno G. : Missoula, Mont.,	Pre L. 60,	318 Emerson P
Hollman, Emil Frederick : San Jose,	Educ. 70,	56 Encina
Holman, John Raymond : Portland, Ore.,	E. E. 114,	Zeta Psi
Holmes, Alma : Los Angeles,	Math. 43,	11 Salvatierra
Holmes, Winn Earl : Wichita, Kansas,	Econ. 101,	Delta Tau Delta
Hook, Bertha Louise : San Bernardino,	Germ. 51,	22 Roble
Hook, Joseph Stanley : Perris,	Geol. 96,	182 Encina

Hoover, Bessie Belle : Palo Alto, Engl. 109, 321 Melville P
Hopkins, Ernest Jerome : San Jose, Engl. 63, 106 Encina
Hopler, Thornton Mills : Lincoln, Chem. gr., 12 Alvarado
B. S., Rutgers College, 1908.

[1]Hori, Ayao : Kumamoto, Japan, E. E. 126, Japanese Club
A. B., Stanford, 1910.

[2]Horine, George Leslie : Palo Alto, C.E., Bryant&EmbarcaderoP
Horton, Harry Leonard : Ukiah, C. E. 110, 71 Encina
Horton, Marion Louise : Pasadena, Phil. 69, 26 Roble
Hostettler, Burdette Lord : Erie, Pa., M. E. sp. 41, Acacia
Hough, Helen Dexter : New York, N. Y., Engl. gr., Kappa Alpha Theta
A. B., Woman's College, Baltimore, 1907.

Hough, Virginia : New York, N. Y., Engl. †9, Kappa Alpha Theta
Houghton, Harry Sumner : Santa Cruz, C. E. 6, Kappa Sigma
Houser, John David : Sacramento, Educ. 81, 111 Encina
[1]Howard, Grenville Gates : Stanford Univ., Zool. 3, 12 Dolores
Howell, Bertha Blanchard : Evanston, Ill., Engl. 78, 555 Kellogg P
[2]Howell, Isabella Grant : Palo Alto, Graph. 555 Kellogg P
Howell, John Wesley : Los Angeles, Pre L. 38, Beta Theta Pi
Howell, Maude Teresa : Los Angeles, Hist. 103, Delta Gamma
[1]Howland, Leon David : Worchester, N. Y., C. E. 99, 89 Encina
Hubbard, Herbert Lincoln : Redlands, Econ. 34, 187 Encina
Hubbell, Harold Congdon : Ontario, Pre L. 17, 80 Encina
Hudson, Frederick Ross : Watsonville, Pre L. 9, College Terrace
Hughes, Jennie Sherwood : Oakland, Graph. 108, 24 Roble
[2]Hughes, Julian Martin : Portland, Ore., Phyl. Zeta Psi
Hughes, Ralph Leon : Salinas, C. E. 105, 155 Encina
Hulsman, Evelyn Clara : Susanville, Engl. 75, 16 Alvarado
Humphrey, Harry Frank : Santa Ana, Geol. 71, 173 Encina
Hunt, George Walter : San Jose, C. E. sp. 29, 118 Encina
[1]Hunter, Irene Louise : Riverside, Frn. gr., 1112 Ramona P
A. B., Colorado College, 1909.

Huntsberger, Adele Clare : Los Angeles, Hist. 75, Pi Beta Phi
Huntsberger, Harold Kessler : Los Angeles, Pre L. 42, D. Kappa Epsilon
[1]Hurd, Katherine : Stanford University, Germ. 56, 1 Alvarado
Huston, Jay Calvin : Buffalo, N. Y., Hist. 63, 9a Salvatierra
Hutchins, Mary Emeline : Stanford Univ., Hist. gr., Pine Cottage
A. B., Stanford, 1909.

[2]Hutchinson, Joseph Kellogg : Palo Alto, Law sp. 8, 403 Kingsley P
Hutchinson, Ruth : Los Angeles, Hist. 40, G. Phi Beta
Hyatt, Edward, Jr., : Sacramento, C. E. 60, 359 Emerson P

Hyatt, Hazel Elizabeth : Cleveland, O., Lat. gr., 67 Roble
A. B., Western Reserve University, 1908.
Ichihashi, Yamato : Stanford Univ., Econ. gr., Japanese Club
A. B., Stanford, 1907; A. M., 1908.
Ichinose, Hojime : Nagano Ken, Japan, M. E. 36, Japanese Club
Ingelow, George Carpenter : Banning, Hist. sp. 10, 543 Byron
Ingraham, Irving I. : Bristol, Conn., Econ. sp. 10, D.KappaEpsilon
[1]Ingram, Chester Thornton : Los Angeles, Pre L. 4, Sigma Nu
Ingram, Karl Culton : Gilroy, Pre L. 8, Phi Kappa Psi
[2]Ish, Max Ellis : Palo Alto, C. E. 10, 160 Webster P
Jack, Julian Riette : Mt. Carroll, Ill., C. E. 12, Theta Delta Chi
Jack, Norman Michel : Los Angeles, Econ. 26, Beta Theta Pi
Jackson, Edgar Alden : Lawrence, E. E. 11, Lawrence L
Jackson, Ethel May : Palo Alto, Graph. 12, 350EmbarcaderoP
[1]Jackson, Hartley Everett : Palo Alto, M. E. 31, 318 Emerson P
Jackson, Marie Herbert : Los Angeles, Hist. 75, 37 Roble
Jacobi, Aaron Leonard : San Francisco, Pre L. 68, 14 Encina
[2]James, Leander Laurel, Jr. : Fairbanks, Al., Pre L., Beta Theta Pi
James, Muriel Vida H. : Ann Arbor, Mich., Engl. gr., Pi Beta Phi
A. B., University of Michigan, 1909.
James, Myrtle Hodge : Santa Monica, Germ. 97, 52 Roble
Jameson, Bernice : Corona, Chem. 13, 55 Roble
Jameson, Eloise : Corona, Chem. 112, 55 Roble
Jeffers, Paul Eells : Los Angeles, C. E. 13, 5 Lasuen
[1]Jenkins, Alice Mabel : Stanford University, Phyl. 107, 3 Lasuen
Jenkins, Leonard R. : Ogden, Utah, M. E. 12, 405 Emerson
[2]Jenkins, Olaf Pitt : Stanford Univ., Geol., 3 Lasuen
Jensen, James Oliver : Palo Alto, E. E. sp. 11, 520 Everett P
Jesson, Robert Harold : Ontario, C. E. 78, 70 Encina
[2]Joachims, Arthur : Campbell, C. E. 55, 3 Lasuen
[1]Johnson, Alex Parley, Jr. : Los Angeles, Math. 5, Zeta Psi
Johnson, Carrie Jette : Pacific Grove, Hist. 48, 529 Hamilton P
[1]Johnson, Charles Rodgers : San Francisco, C. E. 9, Columbia, Mayfield
Johnson, Emily Bayard : Los Angeles, Hist. 100, K. Kappa Gamma
Johnson, Frederick Monroe : San Francisco, Econ. 37, Beta Theta Pi
Johnson, James Rowland : San Jose, E.E.97, 340ES.FernandoSJS
[1]Johnson, Walter Harold : San Jose, C. E. 66, 658 Stockton, S.J.S
Johnston, Angus, Jr. : Colton, Econ. 95, 32 Encina
Johnston, Carl Edward : Los Altos, Bot. 34, Los Altos
Johnston, Faber Laine : San Jose, Pre L. 1, Sig. Alpha Epsilon
Johnston, Hazel May : San Jose, Hist. 74, Alpha Phi

Johnston, Petra Beatrice : Redwood City, Engl. 13, Redwood City R
Johnston, Walter Foster : Everett, Wash., Pre L. 16, 656 Bryant
Jones, James Walter : La Porte, Chem. 23, 119 Encina
[2]Jones, John Joseph : Santa Clara, Law gr., Santa Clara
A. B., Santa Clara College, 1908.
Jones, Louis Hollister : Pasadena, S. Bot. 65, Phi Kappa Psi
Jones, Preston Matthew : Palo Alto, C. E. 9, 471 Channing P
[1]Jones, Sara Minerva : Luverne, Minn., Engl. gr., Roble
Ph. B., Hamline University, 1905.
Jordan, Edward : Brisbane, Aust., Educ. gr., 101 Encina
B. S., University of Sydney, 1901.
Jordan, Guy Wilfred : Colton, Chem. 41, 100 Encina
Jordan, Knight Starr : Stanford Univ., Chem. 91, Xazmin House
Judah, Marion : Los Angeles, Germ. 11, Alpha Phi
Junge, Marie Elizabeth : Palo Alto, Phyl. 45, 611 Bryant P
Kauffman, Marguerite Edna : Pomona, Hist. 72, 11 Salvatierra
Kawabe, Kisaburo : Tokyo, Japan, Pre L. 13, 27 Salvatierra
LL. B., Waseda University, 1907.
Kay, David Nelson : Sacramento, Geol. 85, 358 Homer P
Kay, Willard E., Jr. : Ogden, Utah, Phyl. 45, Lotus Club
Keefer, Chauncey Tennent : Los Angeles, M. E. sp. 12, 407 Waverley P
Keesling, Hector : San Jose, E. E. 85, Sigma Nu
[2]Keller, Herbert Anthony : Peoria, Ill., Hist. gr., Manzanita
A. B., University of Chicago, 1909.
Keller, Clefa Edna : Los Angeles, Germ. 101, 1 Alvarado
Keller, Norma Grace : Almira, Wash., Germ. 69, 3 Madroño
Kelly, Edith Louise : Oakland, Germ. 81, 324 Emerson P
Kelly, Laurence Corbett : Winnipeg, Can., Econ. 69, Phi Kappa Psi
[1]Kelly, Thomas Henry : Winnipeg, Can., Econ. 120, Phi Kappa Psi
A. B., Stanford, 1910.
Kennedy, Louis Rex : Orange, C. E. 37, Kappa Alpha
Kennedy, Stanley C. : Honolulu, T. H., Econ. 41, Phi Kappa Psi
Kercheval, Howard Gholdsen : Sacramento, Pre L. 33, Sigma Nu
Kern, Eugene Francis : Berkeley, Econ. 10, Beta Theta Phi
Keyston, Garton Donald : San Francisco, Econ. 36, 93 Encina
Killian, Joseph Adolf : Los Angeles, C. E. sp. 80, S. Alpha Epsilon
Kilpatrick, Jennie Faye : Palo Alto, Lat. 29, 806 Bryant P
[1]Kilpatrick, Rollo Raymond : Palo Alto, Grk. 93, 806 Bryant P
King, Alfred Thomas : San Luis Obispo, Graph. 37, Phi Delta Theta
King, Harriet Shulze : Banning, Phyl.-Med. 103, 22 Alvarado
King, Lyman Stevenson : Oakland, M. E. †12, S. Alpha Epsilon

Kistler, Jessie Rua : Covina,	Engl. 86,	14 Salvatierra
Knapp, Bertha Jane : Tehachapi,	Germ. 107,	Walden
Knapp, Meredith Elizabeth : Azusa,	Hist. 12,	1 Alvarado
Knight, Harold Pratt : Pasadena,	Chem. 72,	Phi Gamma Delta
Knollin, Ernesto Ray : Auburn, N. Y.	Educ. 25,	13 Salvatierra
Knollin, Herbert Edward : Auburn, N. Y.,	Educ. 92,	51 Encina
Knowlton, Philip Arnold : Chico,	Lat. gr.,	20 Lasuen
A. B., University of Wisconsin, 1906; A. M., 1908.		
Knox, Marguerite Regina : Los Angeles,	Frn. 79,	Walden
[2]Kobbé, Eric : Pasadena,	Math. 36,	Beta Theta Pi
Kollman, Charles : Santa Cruz,	Econ. 94,	232 Lytton P
Kramm, Hugo Edmund : Palo Alto,	Geol. gr.,	445 Homer P
A. B., Stanford, 1909.		
[2]Kück, Bertha Matilda : Menlo Park,	Educ. 34,	Menlo Park M
[2]Kuhnert, Walter Andrew : San Francisco,	Chem. 59,	535 Byron P
Kumelike, Lorenz Lei : Honolulu, T. H.,	Geol.	219 Ramona P
Lacey, Gladys Vivien : Salinas,	Hist. 54,	42 Roble
Lacey, William Noble : San Diego,	Chem. 71,	66 Encina
Lada, Paul Frank H. : Denver, Colo.,	C. E. 77,	133 Encina
La Grange, George Erwin : Redlands,	Pre L. 73,	3 Encina
Laird, William Aikin : Lindsay,	C. E. 11,	9a Salvatierra
Lake, Harrison Morton : San Jose,	Phyl. 45,	202 Encina
Lake, Jarrett Townsend : Redlands,	E. E. 60,	89 Encina
Lakin, Egerton Drew : Palo Alto,	Law gr.,	Acacia
A. B., Stanford, 1908.		
Lakin, Jessie Isabel : Palo Alto,	Graph. 12,	Delta Delta Delta
Lambert, Lewis Raymond : Suisun Valley,	Law sp. 5,	College Terrace
Landon, Maude Juanita : Los Gatos,	S. Bot. 107,	1251 Bryant P
Laney, Lynn Meade : Berkeley,	Law gr.,	16 Salvatierra
B. L., University of California, 1909.		
Langfitt, Joseph A., Jr. : Pittsburg, Pa.,	Pre L. †3,	Phi Delta Theta
Lanktree, Elizabeth Frances : Alameda,	Psych. 75,	14 Salvatierra
[2]Lantz, Grover Berner : Colton,	Econ. 26,	23 Encina
Large, John Henry : Owaneco, Ill.,	Pre L. 109,	19 Lasuen
Larkin, Gail Carhart : Redlands,	Pre L. 43,	187 Encina
Lasky, Bernard Harold : San Francisco,	Geol. 25,	119 Encina
[1]Lau, Say Kau : Honolulu, T. H.,	C. E.	Stanford Residence
[2]Lawrence, Albert Hume : Pacific Beach,	Geol. 69,	20 Lasuen
Lawrence, George Louis : Modesto,	Lat. 11,	419 Waverley P
Lawson, Edith : Sacramento,	Engl. 105,	Delta Delta Delta
Leach, Charles Nelson : Stanford Univ.,	Med. gr.,	Ramona Bldg P
A. B., Stanford, 1909.		

[1]Leaf, Elwood Benjamin : San Jose, Pre L. † Encina
Leaf, Erle Mervin : San Jose, Pre L. 106, 85 Encina
Leaman, James Buchanan, Jr. : San Jose, Pre L. 10, 126 Encina
Leaming, Lucy Emeline : Palo Alto, Phys. 116, 1022 Webster P
[1]Leber, Henry : Oakland, Law sp., College Terrace
LeCount, Clarence Milton : Clark, S. D., E. E. 72 College Terrace
Lee, Bradner Wells, Jr. : Los Angeles, Pre L. 62, D. Kappa Epsilon
Lee, Kenyon Farrar : Los Angeles, Pre L. 17, D. Kappa Epsilon
Leeds, Jacob Howard : San Diego, E. E. 74, Kappa Alpha
Legge, Frances Lynette : Pasadena, Engl. 81, K. Alpha Theta
Leib, Earl Russell Warren : San Jose, Geol. 56, Zeta Psi
Leib, Karl Elias : Spokane, Wash., Pre L. 14, 1037 Ramona P
Lenfest, Blossom Edith : Los Gatos, Hist. 101, 325 Hamilton P
Lenfest, Calvin Ray : Los Gatos, Econ. 39, 325 Hamilton P
Lengfeld, Louis : San Francisco, Econ. 57, 16 Salvatierra
Lenox, Lionel Tracy : Mountain View, Bot. 8, Mt. View
Lenzen, Mary Irwin Murray : San Jose, Engl. 8, 79 Magnolia, S. J. S
Lever, Marcia Brucker : Redlands, Engl. 105, 56 Roble
Levy, Joe Paul : Hueneme, Econ. 92, 151 Encina
Levy, Karl Riffle : Los Angeles, Pre L. 12, 37 Encina
Levy, Paul Mark : Palo Alto, Chem. 26, Encina
Levy, Theodore Martin : San Francisco, Pre L. 12, Encina
Lewis, Charles Granville : Pacific Grove, C. E. 38, 185 Encina
Lewis, Howard Augustus : Los Angeles, Hist. 43, Theta Delta Chi
Lewis, William David : Pueblo, Colo., C. E. 11, 420 Hawthorne P
[1]Limon, Gregorio : Orizaba, Mex., M. E. 34, College Terrace
Lindauer, Samson Arthur : Deming, N. M., Pre L. 121, 81 Encina
Little, Edward Antes : Wichita, Kans., Econ. 106, Delta Tau Delta
Livengood, Frances Marie : Los Angeles, Engl. 13, 23 Madroño
[1]Lloyd, Ethel May : San Mateo, Engl. † San Mateo
[2]Loel, Wayne Frederick : Saratoga, E. E. 437 Kipling
Loftus, Frances : Los Angeles, Hist. 14, Pi Beta Phi
Lohman, Ralph W. : Oakland, E. E. gr., San Francisco S
M. E., Cornell University, 1901.
[2]Long, Eda Lillian : Montpellier, Engl. † 37 Roble
Long, Jean Ward : Los Angeles, Frn. 7, Delta Gamma
Long, Lydia : Hayward, Hist. 9, Madroño
Long, Mable Jo : Boise, Idaho, Germ. 9, Delta Delta Delta
[1]Long, Royce Reed : Stanford University, Phyl. gr., 12 Alvarado
A. B., Stanford, 1908.
Longueville, Joseph Charles : Dubuque, Ia., Hist. 12, Phi Kappa Psi

Looney, Susan Marie : Palo Alto, Educ. 83, 416 Webster P
Lotz, Cyril Clyde : San Jose, Pre L. 12, 116 S 9th, SanJoseS
Loud, Henry Lawrence : Pomona, Pre L. 6, 49 Encina
Louis, Gilbert Ernest : Riverside, Geol. 71, 64 Encina
[2]Lovering, Gladys Laverne : San Jose, Hist. Roble
Low, Isabel Tura : Green Mountain, Ia., Germ. 101, 257 Byron P
Lowe, Gladys : Woodland, Hist. 13, 1 Alvarado
Lowman, Sheda Amy : Los Angeles, Hist. 23, Walden
Luis, Franklin Alfred : Salinas, Geol. 8, 545 Bryant P
Lull, Linford C., Jr. : Los Angeles, E. E. 13, Sigma Nu
Lumsden, Treve Berlin : Los Angeles, Econ. 10, Kappa Alpha
Lynd, Louise Blount : Phoenix, Ariz., Educ. 53, 101 Waverley P
[1]Lyne, Henry Stephens : Melbourne, Aust., Geol. 61, 176 Waverley
McAllister, Stella : Sacramento, Hist. gr., 67 Roble
A. B., Stanford, 1909.

McCann, Eugene Garrison : Los Angeles, E. E. 105, 44 Encina
McCann, Robert James : Pacific Grove, Geol. sp. 49, 407 Waverley P
[1]McCarthy, Edwin John : San Francisco, Pre L. 2, 1684 Page, S. F. S
McCarthy, Mary Louise : Honolulu, H. T., Engl. 43, 25 Roble
McCartney, Flora Georgia : Sioux Falls, S.D., Lat. 9, 531 Cowper P
[1]McClellan, Leslie Newman : Riverside, E. E. † 541 Ramona P
McClurg, Lena Marie : Los Angeles, Graph. 8, P. Beta Phi
McConnell, Albert Reynolds : Los Angeles, Graph. 12, Delta Tau Delta
[2]McConnell, David Rose : Brisbane, Aust., Educ. gr., 500 Palo Alto P
M. A., University of Edinburgh, 1878.

[1]McConnell, Walter Hurlbut : Los Angeles, Pre L. 55, Delta Upsilon
McCorkle, Paul Clarendon : Escondido, E. E. 12, 840 Bryant P
MacCormac, Josephine V. : Palo Alto, Grk. 54, 602 Waverley P
MacCormac, Margaret Elizabeth : Palo Alto, Grk. gr., 602 Waverley P
A. B., Stanford, 1908.

McCormack, Elizabeth May : Tacoma, Wash., Engl. 11, 1 Alvarado
McCowen, Hale, Jr. : Ukiah, Pre L. 128, 141 Encina
[2]McCrea, John Daniel : Redwood City, C. E. Redwood R
McCready, Harry Lewis : Cold Spgs, Wyo., C. E. sp. 20, 633 Channing P
[1]McCready, Ida : Tacoma, Wash., Frn. 23, 11 Salvatierra
McCullough, A. Stafford : Clifton, Ohio, Chem. 63, 415 Lytton P
McDaniel, Robert Levi : Eureka, Econ. 8, 9 Salvatierra
[2]McDermott, Laura Irene : Los Altos, Chem. † Los Altos L
Macdonald, Alexander Stuart : San Jose, C. E. 33, 58 Encina
[2]Macdonald, Neil C. : Grand Forks, N. D., Econ. gr.
A. B., North Dakota University, 1900; A. M., 1908.

McDonald, Clarence Chester : Woodland, Pre L. 52, 35 Encina
McDougal, Latham Eastman : Belmont, C. E. 63, Belmont School B
McEwen, George Francis : Manchester, Ia., Phys. gr., 660 Homer P
A. B., Stanford, 1908.
McFadden, Robert Clyde : Fullerton, E. E. 106, Delta Upsilon
McGilvray, Walter Scott : Stanford Univ., Chem. 83, Escondita Cottage
McGregor, Ernest Alex. : Melden, Mass., Zool. gr., 845 Bryant P
A. B., Stanford, 1908; A. M., 1909.
McGregor, Gregor : Benicia, C. E. 107, 75 Encina
McGuire, Hollister Booth : Portland, Ore., Pre L. 9, Sigma Chi
McHenry, Beatrice : Olympia, Wash., Hist. 76, 64 Roble
A. B., Union Christian College, 1904.
McInerny, James Edmund : Los Angeles, Econ. 12, Delta Tau Delta
[2]McKay, George : Fort Bragg, C. E. 33, College Terrace
McKee, Abigail Frances : San Jose, Lat. 103, 16 Alvarado
[2]McKendry, Ramona : Palo Alto, Hist. 1035 Bryant P
[1]Mackenzie, Kenneth Stuart : Santa Rosa, Pre L. 92, 178 Encina
McKeown, Edward Lawrence : San Martin, Pre L. 69, 148 Encina
McKibben, Clara Ramsey : Palo Alto, Span. 10, 1401 Cowper P
McKibben, Eva Leora : Palo Alto, Span. 10, 1401 Cowper P
[2]McKnight, Harold Metcalf : Los Angeles, Pre L., Delta Kappa Epsilon
MacLachlan, Marion A. : Santa Barbara, Hist. 36, 630 Lincoln P
McLachlan, Anita Jean : Pasadena, Hist. 69, K. Kappa Gamma
[2]McMeans, Harold Robert : Santa Rosa, Pre L. sp., College Terrace
McMillan, Cora Lilo : Browns Valley, Educ. 105, 45 Roble
McMillan, Hazel May : Fallbrook, Hist. 9, 70 Roble
McMillan, W. Bruce : San Jose, C. E. 81, 139 Encina
McNeely, Roland : Los Angeles, Pre L. 11, Kappa Sigma
McNulty, Frederick William : Fortuna, Law gr., Theta Delta Chi
A. B., Stanford, 1910.
McPheeters, George Carl H. : Palo Alto, Phyl.-Med. 109, 836 Wav. P
[1]McQuiston, John Harvey : Coraopolis, Pa., Chem. †4, Phi Delta Theta
Macready, George Alexander : Los Angeles, Geol. 113, 8 Encina
Macready, Harry Ashmore : Los Angeles, Hist. †7, Kappa Alpha
Macready, John Arthur : Los Angeles, Econ. 33, 8 Encina
McSherry, Eugene William : Watsonville, Pre L. 8, Welakahoa Club
McWethy, Jesse Robert : Rialto, C. E. 73, 169 Encina
McWilliams, Charles K. : Canon City, Colo., Chem. 50, 515 Waverley P
Maddox, Ruth Evalina : Visalia, Germ. 104, K. Kappa Gamma
Madison, Christine : Hayward, Math. 13, 14 Salvatierra
Mallory, Nathaniel Wells : Santa Rosa, Phyl. 13, 580 Addison P

Malone, Maurice Young : Laton,	Pre L. 82,	45 Encina
Maloney, Harry Wilfred : Palo Alto,	Phyl. sp. 1,	176 Waverley P
Maloney, Maud Alice : Butte, Mont.,	Graph. 12,	707 Univ. P
Maltaner, Frank : Cincinnati, Ohio,	Chem. 23,	21 Lasuen
Mann, Horace : San Carlos,	Geol. 97,	4 Encina
Mann, Leland S. : Arroyo Grande,	Pre L. 53,	38 Encina
Mann, William M. : Helena, Mont.,	Ent. 73,	College Terrace
Marchant, Clyde Coad : Tustin,	Chem. 95,	115 Encina
Marcus, Louise : San Francisco,	Germ. 30,	2 Roble
Marks, Lazare Henry : San Francisco,	M. E. 7,	Chi Psi
Marks, Louis : Los Gatos,	M. E. 46,	Los Gatos L
[1]Marsh, Burnham Williams : San Francisco,	Pre L. 9.	Phi Gamma Delta
Marshall, Kenneth Irving : Los Angeles,	M. E. 12,	949 Emerson P
Marshall, Verna Mae : Riverside,	Graph. 34,	Pi Beta Phi
Martin, George Everett : Dixon,	C. E. 101,	28 Encina
Martin, John Johnston M. : So. San Fran.,	Graph. 4,	S. Alpha Epsilon
Martinie, James Winniefred : Palo Alto,	E. E. 10,	243 Webster P
Marvin, Cloyd Heck : Riverside,	Pre L. 8,	5 Lasuen
Marx, Dorothy Grotecloss : Palo Alto,	Engl. 76,	357 Kingsley P
Marx, Roland Grotecloss : Palo Alto,	C. E. 81,	357 Kingsley P
Mason, Ruth : Mountain View,	Bot. 35,	Mt. View M
Masters, William Henry : Portland, Ore., A. B., Stanford, 1909.	Law gr.,	141 Encina
[2]Mathews, James Henry : Eureka,	Pre L.	Kappa Sigma
Matsuoka, Shigezo : Sacramento,	Math. sp. 31,	1125 Ramona
Mattes, Lewis Yarde : Corning,	C. E. sp. 74,	Sigma Nu
Matteson, Alice Bell : Hollister,	Hist. 35,	29 Roble
Matthias, Edwin Clark : Spokane, Wash.,	Pre L. 73,	Phi Kappa Psi
Matthiessen, Marcus Martin : Campbell, A. B., Harvard University, 1905.	Law gr.,	Campbell C
Mattingly, Gladys Marie : San Francisco,	Graph. 63,	16 Alvarado
Mayne, Bessie Jane : San Jose,	Engl. 71,	1651 Alameda, SJS
Meddick, Thomas Devereaux : Ovid, N. Y.,	E. E. 46,	Los Altos L
[2]Meeks, Elsie Blanch : Galveston, Ind., A. B., University of Indiana, 1908.	Lat. gr.	25 Salvatierra
Melcon, Sisag Vahram : Kingsburg,	E. E. 47,	92 Encina
Melcon, Zenope Parnak : Kingsburg,	E. E. 44,	92 Encina
Melczer, Edward A. : Phoenix, Ariz.,	Geol. 107,	68 Encina
Menke, John Henry, Jr. : Salinas,	Geol. 98,	68 Encina
Merritt, Floyd Calhoun : San Luis Obispo,	Geol. 96,	177 Encina
Mersereau, Irene : Pasadena,	Germ. 75,	13 Madroño

Messer, Robert Walcott : Rockland, Me.,	Germ. 78,	1106 Bryant P
Meston, Archibald Forbes : Santa Barbara,	M. E. 110,	136 Encina
Metzner, Florence Prior : San Francisco,	Germ. 76,	Pi Beta Phi
Meyerholz, Ivan Rheinier : Cupertino,	C. E. 7,	Cupertino C
Michod, Hazel Lorena : Long Beach,	Frn. gr.,	Delta Delta Delta
A. B., Stanford, 1909.		
Miller, James Arthur : Palo Alto,	E. E. 12,	580 Addison P
Miller, James Irvin : Santa Cruz,	Geol. 62,	177 Encina
[1]Miller, Maude Anita : Salt Lake City, U.,	Frn. 99,	Delta Delta Delta
Miller, R. Justin : Hanford,	Pre L. 76,	78 Encina
Miller, Robert Patchen : Los Angeles,	M. E. 76,	Delta Tau Delta
Miller, Stella A. : Huntington Park,	Engl. 100,	12 Roble
Miller, William Stanford : Palo Alto,	C. E. 41,	630 Bryant P
Mills, John Herman : Palo Alto,	Phyl. 48,	530 Lytton P
[2]Mills, Sarah Matilda : National City,	Engl. 70,	601 Channing
Mills, Wallace Chamberlain : Janesville, Wis.,	M. E. 90,	3 Encina
Millsap, Robert Elmer : Pasadena,	C. E. 48,	147 Encina
Millspaugh, Winnefred : Hollywood,	Hist. 73,	K. Alpha Theta
[1]Minturn, LeRoy : San Francisco,	E. E. 104,	D. Kappa Epsilon
Mirrielees, Lucia Bush : Big Timber, Mont.,	Engl. gr.,	750 Bryant P
A. B., Stanford, 1909.		
Missner, Frank Roy Stewart : Lincoln,	Phyl. 10,	College Terrace
Mitchell, DeWitt Charles : San Diego,	Pre L. 50,	D. Kappa Epsilon
[1]Mitchell, Howard, Jr. : Santa Barbara,	Educ. gr.,	Hoitt School M
A. B., Haverford College, 1907.		
Mitchell, Marion Kate : San Diego,	Hist. 37,	Alpha Phi
Mitchell, Merle Ellsworth : Santa Rosa,	Pre L. 68,	11 Encina
Mitchell, Mowatt Merrill : Los Angeles,	Econ. 99,	Zeta Psi
Mitchell, Standish Low : Los Angeles,	Econ. 12,	Zeta Psi
Mochizuki, Kazumara : San Mateo,	Econ. 66,	Japanese Club
Moise, Nina Ethel : San Francisco,	Hist. 43,	10 Madroño
Monroe, Helen : Denver, Colo.,	Frn. 65,	K. Alpha Theta
Montague, Helene : Los Angeles,	Hist. 40,	Walden
Montgomery, Orland F. : Tulare,	Phyl. 80,	Kappa Sigma
Moore, Courtney L. : Monterey,	Law sp. 26	Chi Psi
Moore, Everett Lee : Menlo Park,	Econ. sp. 14,	Menlo Park M
Moore, Jennie Cloughly : San Diego,	Germ. gr.,	16 Alvarado
A. B., Stanford, 1910.		
Moore, Julia Eugenia : Berkeley,	Frn. 43,	Pi Beta Phi
[1]Moore, Neal Preston : Palo Alto,	Chem. 27,	564 Hamilton P
Moore, Virginia : Los Gatos,	Hist. 40,	Walden

Moorhead, James Barbour : Los Angeles, E. E. 125, 36 Encina
[2]Morell, George Fowler : Palo Alto, Pre L. 94, D. Kappa Epsilon
Morgan, Edith Theresa : Columbia, Engl. 74, 16 Madroño
Morgan, Geoffrey Francis : Los Angeles, Engl. 102, 45 Encina
Morgan, Gladys Myfanwy : San Diego, Phyl. 53, 21 Madroño
Morgan, Harold Sydney : San Diego, Phyl. 46, Phi Delta Theta
Morgan, Jessie Caroline : Los Angeles, Hist. 108, Delta Gamma
[1]Morgan, Octavius Weller : Los Angeles, C. E. 120, Sigma Nu
A. B., Stanford, 1910.
Morgan, Ralph Stoneberger : Los Angeles, M. E. 8, 5 Lasuen
[1]Morlan, Rae Belle : Los Angeles, Graph. †12, 16 Alvarado
Moroney, Carl Joseph : Pueblo, Colo., M. E. 105, 136 Encina
Morris, Robert Farley : San Francisco, C. E. 108, 318 Emerson P
Morris, Samuel Brooks : Pasadena, C. E. 82, 82 Encina
Morrison, Charlotte Watrous : Oakland, Germ. 109, Walden
Morrison, George David : San Francisco, Econ. 82, 24 Encina
Morrison, Harold : Indianapolis, Ind., Ent. 16, Welch Cottage
Morrison, Lelah M. : Westminster, Colo., Engl. 15, 22 Lasuen
Morrison, Maurice Everard : Morgan Hill, C. E. 12, 415 Lytton P
Morrison, Wayland Augustus : Los Angeles, Phyl. 101, D. T. Delta
[2]Morse, Evelyn : Lodi, Lat. 19 Alvarado
Mortensen, George Emil : San Leandro, Chem. gr., 195 Encina
A. B., Stanford, 1910.
Morton, Ivan : Hume, Mo., M. E. 14, 1745 Clement, S.F
Mosher, Hugh Harold : San Jose, Chem. 12, 201 S Crittenden SJS
[2]Moss, Harold Rae : Palo Alto, Chem. 55, 127 Cowper P
Moss, William Tiffany : Des Moines, Ia., Econ. 8, 351 Channing P
[1]Mues, Merle Brownie : Palo Alto, Germ. 120, 436 Tasso P
A. B., Stanford, 1910.
Mullen, Homer Alfred : Jefferson, O., E. E. 42, 656 Bryant P
Mulock, Kate Gray : San Gabriel, Hist. 40, 13 Madroño
Munger, Arthur Lee Jr. : Stanford Univ., Med. gr., 30 Encina
A. B., Stanford, 1910.
Murakami, Yoshi : Ehime, Japan, M. E. 70, Japanese Club
Murlin, Lane Burdine : Long Beach, Pre L. 8, Phi Gamma Delta
Murphey, Elizabeth Ella : Tucson, Ariz., Frn. 67, Delta Delta Delta
Murphey, Robert Bivins : Tucson, Ariz., [1]Law. gr., 179 Encina
A. B., Stanford, 1908.
Murray, Alfred Conklin : Woodland, Pre L. 49, 53 Encina
Murray, Robert Lindley : Palo Alto, C. E. 11, 1019 Bryant P

Myer, Arthur Henry : San Francisco,	Chem. 106,	96 Encina
Nagel, Helen May : Davenport, Ia.,	Chem. 73,	5 Madroño
[1]Nakamura, Masawo Kiyoyuki : San Fran.,	M. E. sp. 43,	Japanese Club
Nash, Howard Frank : Polson, Mont.,	Geol. 117,	318 Emerson P
[1]Nash, Mary Abigale : Winters,	Lat.	19 Alvarado
Nazro, John : San Jose,	M. E. 14,	121 So. 8th, S J S
Neal, Helen : Belmont,	Hist. 33,	K. Kappa Gamma
Nelson, Hans Christian : Field's Landing,	Pre L. 111,	130 Encina
Nesbitt, Chetanna Maud : Vallejo,	Hist. 27,	Walden
[2]Nesbitt, Mabel Irene : Vallejo,	Graph. 37,	Walden Club
Newcomer, Erval Jackson : Palo Alto,	Ent. 77,	5 Forest Court P
Newcomer, Mabel : Palo Alto,	Hist. 9,	5 Forest Court P
Newman, Carl Emory : Madera,	Econ. 29,	Theta Delta Chi
Newman, Ollis Willard : Santa Barbara,	S. Bot. 10,	16 Salvatierra
Newman, Rea Cambridge : Santa Barbara,	E. E. 14,	16 Salvatierra
Newman, Willard Hodges : San Diego,	Pre L. 35,	167 Encina
Newton, Douglass Erle : Woodbridge,	Hist. 46,	121 Encina
Nichols, C. Fenton : San Francisco,	Pre L. 12,	4 Lasuen
[2]Nielsen, Minnie : Palo Alto,	Graph.	327 Hamilton P
[1]Nielson, Julia Marie : Palo Alto,	Germ.	640 Waverley P
Nimmo, Leroy Coon : Los Angeles,	E. E. 99,	Phi Gamma Delta
Noble, Isabel Blake : Long Beach,	Lat. 76,	Pi Beta Phi
Nobs, Walter Rudolf : Redwood City,	Geol. 10,	Redwood City R
Nolan, Edward Dana : San Luis Obispo,	Geo. 63,	145 Encina
[2]Nomura, Hanjii : Kobe, Japan,	Engl. sp.,	Japanese Club
[1]Norton, Ione May : Bloomington,	Lat. gr.,	18 Roble
A. B., Stanford, 1909.		
Norwood, Clifford Taylor : Redlands,	M. E. 120,	52 Encina
Nowell, Patterson Dana : Tulare,	Pre L. 10,	415 Lytton P
Nunan, Cyril Raymond : Stockton,	Pre L. 44,	Phi Delta Theta
[1]Nutt, Anne : San Diego,	Engl. †8,	67 Roble
Nyvall, Clarence Ambrose : Butte, Mont.,	Chem. 9,	445 Homer P
Oakey, James Vernon : San Bernardino,	Pre L. 66,	169 Encina
Oakey, John Miller : San Bernardino,	C. E. 115,	54 Encina
Obayashi, Fukuzo : Tokyo, Japan,	Zool. sp. 62,	Col. Terrace
Obear, Maurice : St. Louis, Mo.,	C. E. sp. 34,	Beta Theta Pi
Ober, Florence Sophia : St. Paul, Minn.,	Bot. 10,	Delta Gamma
O'Donnell, Bernard J. : San Luis Obispo,	Law sp. 15,	193 Encina
[2]Ogier, Elizabeth Hargest : San Jose,	Graph. †	22 Lasuen
Ogilvie, Paul Morgan : Los Angeles,	Pre L. 62,	Sigma Chi
Ohashi, Yasu-Saburo : San Francisco,	E. E. 58,	8 Alvarado P

Ohlandt, Henry, Jr. : San Francisco,	Econ.	Sigma Chi
Oliver, Frederick Hartman : Clinton, Ill.,	C. E. 70,	Delta Upsilon
Oliver, Jean Redman : Chico,	Phyl. 74,	21 Lasuen
Olmsted, Roger Wolcott : Los Angeles,	C. E. 16,	5 Lasuen
Olson, Ernest Morus : San Jose,	Chem. sp. 25,	202N.14th,SJS
Oltmans, Jacob O. : Melvin, Ill.,	C. E. 107,	318 Emerson P
O'Neale, Lila Morris : San Jose,	Engl. 104,	59 Roble
Oppenheimer, Leon I. : Spokane, Wash.,	Phyl. 10,	431 Univ. Ave
Oppenheimer, Sade : Spokane, Wash., A. B., Stanford, 1910.	Engl. gr.,	26 Roble
Orr, Florence Jennings : San Francisco,	Hist. 35,	K. Kappa Gamma
Oshima, Sho : San Francisco,	Phil. 15,	943 Bryant P
Ostenberg, Zeno : San Jose,	Chem. 15,	164 Hamilton P
Otis, Arthur Sinton : Pasadena,	Psych. 102,	29 Encina
Otis, Richard Gaines : Durango, Colo.,	C. E. †7,	358 Homer P
Overman, Ruth : Santa Barbara,	Graph. 41,	58 Roble
Owen, Henry Dorrance : Stockton,	C. E. 64,	Sigma Chi
Oyuki, Masanosuke : Tokyo, Japan,	Econ. sp. 1,	735 Ramona P
Ozier, Margaret Lucille : Los Angeles,	Engl. 105,	K. Alpha Theta
Packard, Henry Jessup : Ontario,	Geol. 64,	91 Encina
Paine, John Howard : Palo Alto,	Ent. 46,	505 Homer P
Paine, Russell : Redlands,	Phyl. 73,	21 Lasuen
Palmer, Ethel Rebecca : Los Angeles,	Engl. 100,	Gamma Phi Beta
Park, Carl Joseph : Palo Alto,	C. E. 35,	51 Encina
Park, Charles V. : Kidder, Mo., A. B., Stanford, 1909.	Econ. gr.,	Faculty Club Hs.
Park, Harriet : Palo Alto,	Graph. 82,	40 Roble
Parker, Franklin Thomas : Astoria, Ore.,	E. E. 102,	10 Encina
Parkinson, Mary Dorothy : Los Angeles,	Germ. 14,	Alpha Phi
Parmelee, Harvey Wright : Santa Barbara,	Geol. 37,	110 Encina
Parmenter, Clarence E. : Kingman, Kans.,	Frn. †18,	431 University
Parsons, Benjamin Everett : Highland,	Geol. 68,	151 Encina
[2]Parsons, Maurice Giesy : Claremont,	C. E. 74,	159 Encina
[1]Parton, Floyd A. : San Jose,	S. Bot. 76,	Phi Kappa Psi
Partridge, John Frederick : San Rafael,	C. E. 47,	S. Alpha Epsilon
[2]Patterson, Edith Woodburn : San Jose, A. B., Stanford, 1909.	Educ. gr.,	30 Roble
[1]Patterson, Ella Jane : Long Beach, A. B., Stanford, 1909.	Hist. gr.,	16 Alvarado
Patterson, Joseph Towne : Denver, Colo.,	E. E. †6,	656 Bryant P
Patterson, Lee : Portland, Ore.,	Geol. 3,	Chi Psi

Patterson, William Herbert : Palo Alto, Pre L. 106, Palo Alto P
Paul, Chester Francis : Ely, Nevada, Econ. 13, 358 Homer P
Payne, Ira Dawson : Morgan Hill, Educ. 21, College Terrace
Peake, Alonzo William : Redondo, Geol. 49, 199 Encina
Peaslee, W. Dhu Aine : Blue Canyon, E. E. 104, 567 Lincoln P
Peck, Edward Lawrence : Pasadena, M. E. sp. 11, 9a Salvatierra
Peck, Sedley Clarendale : Compton, Pre L. 35, Sigma Chi
Peckham, Arthur Bixie : San Jose, Geol. 72, 74 N. 12th, S J S
Peckham, Ignatius Martin : San Jose, Pre L. 70, 74 N. 12th, S J S
[2]Pellas, Silvius Fredrick : San Mateo, Geol. Phi Kappa Psi
Pelton, Herbert Edmun : Reno, Nevada, E. E. 51, 523 Cowper P
Pemberton, Cyril E. : Palo Alto, Ent. 94, 846 Bryant P
Pemberton, John Rothwell : Palo Alto, Geol. gr., 846 Bryant P
A. B., Stanford, 1909.

Perdew, William Edward : Visalia, Chem. 87, 96 Encina
[2]Perring, Anna Louise : Palo Alto, Germ. 62, 737 Bryant P
Perry, George Dorn : Sandusky, Ohio, Econ. 56, 318 Emerson P
Person, Harry Robert : Redlands, Pre L. 42, 184 Encina
Peters, Ethel Clara : Mankato, Kans., Hist. gr., 7 Alvarado
A. B., University of Kansas, 1904.

[2]Peterson, Clarence J. : Honolulu, T. H., Geol. gr., 4 Encina
A. B., Stanford, 1910.

[1]Peterson, Elsa : Honolulu, T. H., S. Bot. gr., 34 Roble
A. B., Stanford, 1909.

Pettigrew, Paul Fred. : Sioux Falls, S. D., Chem. 98, Phi Kappa Psi
Phillips, Alfred Liles : Santa Cruz, Phyl. 10, Delta Tau Delta
Pickering, Loring Crothers F. : San Fran., Engl. 37, 178 Encina
Pierpont, Austen : Nordhoff, Econ. 13, 351 Channing P
Piggott, Helen W. : San Luis Obispo, Hist. 71, Delta Delta Delta
Pingree, Louis William : Ogden, Utah, Chem. 42, 319 Alma
Piper, Merle Bentley : San Francisco, C. E. 105, Stanford Inn
[1]Pittenger, Walter Ralph : Fallbrook, Law sp. 34, 78 Encina
Pittock, Gladys Victoria : San Diego, Germ. gr., 467 Everett P
B. L., Pomona College, 1908.

Pixley, Alma : Orange, Germ. 70, Madroño
Plaskett, Frank Waldo : Salinas, M. E. 75, 334 Cowper P
Platt, Amy Loraine : San Francisco, Germ. 11, 66 Roble
Poindexter, Robert Wade : Los Angeles, Chem. 106, 176 Encina
Polak, Anna Louise : San Jose, Germ. 15, Cherry& Will.,SJS
Polhemus, James Henry : Portland, Ore., C. E. 97, Kappa Sigma
Polson, George Washington : Menlo Park, E. E. 24, Menlo Park M

Pomeroy, Frank Kenneth : Palo Alto, Phyl. 58, 947 Waverley P
Poor, Henry Varnum : Kansas City, Mo., Graph. 110, 153 Encina
Porter, Estelle Caswell : San Fernando, Frn. 78, Alpha Phi
Porter, Lloyd Avery : San Jose, Geol. 9, Delta Tau Delta
Porter, William Stratton, Jr. : Santa Barb., Law sp. 54, 78 Encina
Porterfield, Wilson C. : Silver City, N. M., Pre L. 4, 102 Encina
Post, Fred Dan : Rockford, Ill., Chem. 70, 191 Encina
Post, Henry Bolton : Palo Alto, C. E. 41, 1112 Ramona P
Post, Morgie Adelia : Monrovia, Hist. 9, Alpha Phi
Postma, George Ezinha : Muncie, Ind., Chem. 46, 4 Lasuen
Pratt, Francis Sitwell : Ontario, Chem. 11, Encina
[1]Preciado, Abram A. : Madera, Pre L. 90, 126 Encina
[1]Preisker, Ernest Charles : Milpitas, Pre L. 91, 581 Forest P
Preisker, William Henry : Milpitas, E. E. 12, 581 Forest P
[2]Presley, George Joseph : Berkeley, Law gr., 105 Encina
A. B., Stanford, 1907.

Price, Francis D. : Santa Barbara, Pre L. 11, 35 Salvatierra
Price, Longueville Howe : Palo Alto, C. E. 3, 602 Webster P
Price, Merton James : San Francisco, Phyl. sp. 17, Phi Delta Theta
Price, Violet Longueville : Tinwell, Eng., Germ. 13, 602 Webster P
[1]Pridham, Edwin Stewart : Pasadena, Phys. gr., Encina
A. B., Stanford, 1909.

Prince, Fred : Orange, Econ. 57, 115 Encina
[1]Proctor, Asa Glisson : Woodland, C. E. 86, Encina
Prout, Franklin Stanton : Palo Alto, Geol. 74, 117 Greenwood P
Pruett, Camille Madge : Claremont, Ent. 69, 21 Madroño
Pruett, John Floyd : Claremont, Med. gr., 180 Encina
A. B., Stanford, 1909.

Pugh, Edmund Wright : Los Angeles, Pre L. 72, 549 Cowper P
Purdum, Ernest Reynolds : Colton, Pre L. 96, 523 Cowper P
Pyle, Kenneth : Gilroy, E. E. 10, 74 Encina
Radcliffe, Emily Hannah : Los Angeles, Latin 101, 564 Univ. Ave. P
Radosavljevich, P. R.: Obrez Slav'n'a, A.H., Med. gr., 840 Bryant P
Ph. D., Zurich, 1905; Ph. D., New York University, 1908.

Raines, Herbert : Campbell, E. E. 57, College Terrace
Ramsdell, Harvest Richard : Kent, C. E. 90, 38 Encina
Rankin, Fanny Belle : Petaluma, Hist. 36, 17 Madroño
Rankin, Robert Ream : Yreka, Law gr., Acacia
B. S., University of California, 1907.

Rannells, William Morgan : San Diego, Pre L. 10, 638 Channing P
Ransom, Charles Kirland : Long Beach, E. E. 103, 109 Encina

Rasmussen, Susie Mae : Ogden, Utah, Hist. 60, 265 Lytton P
[1]Rawles, Wesley Mock : Boonville, Geol. 64, 9a Salvatierra
[1]Rawson, James Peterson : Hemet, Educ. 120, 629 Emerson P
A. B., Stanford, 1910.

Rayburn, Donald W. : Los Angeles, Pre L. 33, 19 Lasuen
Rea, Elizabeth Tully : Gilroy, Hist. 72, 3 Madroño
Rea, James Harrold : Gilroy, M. E. 9, Chi Psi
Reed, Chassie Francis : San Diego, Graph. 81, 11 Salvatierra
[2]Reed, Clarence : Palo Alto, Econ. gr., 1043 Cowper P
A. B., De Pauw University, 1892; A. M., Univ. of California, 1907.

Reed, Harold Eugene : Portland, Ore., Econ. 49, Kappa Sigma
Reed, Harry Earl : Lamont, Okla., Econ. 100, Theta Delta Chi
Reed, Hazel Kimball : San Diego, Engl. 78, 11 Salvatierra
Reed, Howard Saxton : Colton, Pre L. 5, 21 Lasuen
Reene, Jane Elinor : San Jose, Engl. 69, 741 S.3rd, San Jose S
Reeve, Ingalls I. : San Jose, M. E. 10, 285 S.13th San Jose S
[2]Reid, Herman Lincoln : Berkeley, Econ. Chi Psi
Reighard, James Gamble : Pasadena, Engl. 74, 351 Homer P
Reineman, Lester Albert : Pasadena, S. Bot. 40, 89 Encina
[2]Reis, Clement Frank : Los Angeles, Econ. 5 Lasuen
Remington, Arthur E. : Watertown, N. Y., Geol. sp. 29, 431 Univ. P
[1]Reyburn, Glenn William : Fresno, Phyl. 117, 180 Encina
Reynolds, Clyde Harelson : Stockton, Educ. 9, 134 E. Julian, S J S
Reynolds, Florence Elizabeth : Upper Lake, Hist. 14, 635 Webster P
Reynolds, John Lynn : Compton, M. E. 44, 110 Encina
Reynolds, Ralph Hubbard : Pasadena, Pre L. 72, Zeta Psi
Rible, Blanch : Sacramento, Grk. 104, 14 Salvatierra
Rible, Lillie May : Sacramento, Engl. gr., 14 Salvatierra
A. B., Stanford, 1910.

[1]Rice, Warren Sumner : Edenvale, Geol. 128, 134 E. Julian S J S
Rich, Willis Horton : Los Angeles, Zool. gr., 567 Forest P
A. B., Stanford, 1909.

Richardson, Charles Howard, Jr. : Pasadena, Zool. 43, 79 Encina
Richardson, Eulalia : Tropico, Phys. 103, 42 Roble
[1]Richardson, John Quince : Pontiac, Ill., Pre L. 12, 19 Lasuen
[2]Richardson, Walter Hamilton : S. Barbara, C. E. 54, College Terrace
Rider, Louise : Watsonville, Graph. 15, 11 Salvatierra
Righter, George Lutes : Campbell, Hist. 50, 154 Encina
Rittigstein, Herman : Oakland, Pre L. 71, 84 Encina
Rivers, Henry Edmund : Los Angeles, Econ. 22, Delta Tau Delta
Robbins, James Clayton : Spokane, Wash., Geol. 88, 20 Encina

Roberts, John Walter : Redlands, Econ. 56, Phi Delta Theta
[1]Roberts, Ruberta Augusta : San Jose, Zool. gr., Pi Beta Phi
A. B., Stanford, 1909.
Robertson, Harry : Redwood, Chem. 110, Redwood City R
Robertson, Ruth Edna : Redwood, Hist. 100, Redwood City R
Robinson, Ada : Carson City, Nev., Engl. 49, 24 Roble
Robinson, Charles Aubrey : San Francisco, Pre L. 9, Peninsula Hosp. P
Robinson, J. Robert : Provo, Utah, Hist. 415 Lytton P
Robinson, Landon McGee : Louisville, Ky., Engl. 27, College Terrace
Robinson, Philip Archibald : San Francisco, E. E. 105, 11 Encina
Robinson, Ralph Leonard : Anaheim, E. E. 63, 431 Univ.
Rockwell, Walter Jay : Los Angeles, Chem. 9, Hoitt's School
Rockwood, Alfred Loveday : Pacific Grove, Econ. 72, Delta Tau Delta
Rogers, Edwin Allan : Palo Alto, M. E. gr., 602 Waverley P
A. B., Stanford, 1910.
Roll, Ella Louise : Santa Clara, Germ. 75, 101 Waverley P
[2]Roll, Julia Irene : Santa Clara, Germ. 87, 16 Alvarado
Rooks, Ben Alex : Los Angeles, Pre L. 10, Phi Kappa Psi
Rooney, Harry Burnham : Auburn, Phyl. 13, 344 Emerson P
Root, William Thomas : Pasadena, Educ. 12, 251 Emerson P
[1]Rose, Jessie Perkins : Ashland, Ore., S. Bot. gr., 706 Cowper P
A. B., Stanford, 1909.
Rosenkranz, Elias Victor : Los Angeles, Pre L. 107, 4 Lasuen
Rosenthal, Florence Bertha : San Fran., Frn. 13, 13 Madroño
Ross, Perley Ason : Fallbrook, Phys. gr., 157 Encina
A. B., Stanford, 1908.
[1]Ross, Robert Brandt : Los Angeles, Econ. 15, Sigma Nu
Rosse, Hermann : The Hague, Holland, Graph. sp. 95, Encina
Roth, Almon Edward : Ukiah, Law gr., 105 Encina
A. B., Stanford, 1909.
Rouark, Lillian Bride : Colo. Springs, Colo., Engl. gr., 400 Tasso P
A. B., Woman's College, Baltimore, 1902.
[2]Rounds, Merle Ballard : Wichita, Kans., Econ. 60, Phi Gamma Delta
Rounds, Ralph Madison : Wichita, Kans., Pre L. 13, Phi Gamma Delta
[2]Rowe, Evelyn More : Berkeley, Zool. 74, 1 Alvarado
Rowe, Herbert : Palo Alto, Chem. 45, 405 Emerson P
Rowe, Mary Jessamine : San Bernardino, Engl. 43, 23 Madroño
[2]Rowell, Alice Ruth : Berkeley, Engl. 7 Alvarado
Rowett, Richard Rutledge : Long Beach, Pre L. 41, 19 Lasuen
Roxburgh, Eileen Margaret : Gilroy, Engl. 11, 68 Roble
Ruddick, Ernest Volney : Ukiah, Econ. sp. 10, Encina

[2]Runyan, Helen Jeannette : Los Angeles, **A. B., Vassar College, 1909.**	Hist. gr.,	22 Lasuen
[1]Rush, Benjamin : Suisun,	Pre L. 21,	Welakahao Club
Russell, Frank M. : Los Angeles,	Econ. 30,	79 Encina
Russell, Henrietta Elizabeth : Tulare, **A. B., Stanford, 1909.**	Lat gr.,	K. Alpha Theta
Rust, Everett Winder : Pasadena, **A. B., Stanford, 1908.**	Ent. gr.,	80 Encina
Rutledge, John D. : Emmettsburg, Ia.,	Law. sp. 55,	Delta Upsilon
Ryan, Clarissa Maud : San Jose,	Graph. 42,	43 Roble
Ryerson, Regina : Sunnyvale,	Hist. 39,	Sunnyvale S
Ryus, David Denslow, Jr. : Los Angeles,	C. E. sp. 22,	Villa de Lagunita
St. Goar, Charles Edward : San Francisco,	Econ. 8,	707 Bryant P
St. John, Royal Upson : Benicia,	C. E. 79,	65 Encina
[1]St. Johns, William Ivan : Whittier,	Pre L. 9,	Phi Kappa Psi
Saito, Nohichiro : San Francisco,	Chem. sp. 5,	Japanese Club
[1]Sakai, Kenyu : Los Angeles,	L. E. sp. 7,	Japanese Club
[2]Salbach, Lloyd F. : San Francisco,	C. E.,	5 Lasuen
[1]Salisbury, Harold Emerson : Monrovia,	Graph. 26,	3 Lasuen
[2]Sampson, Carlos Eugene : Stockton,	E. E. 119,	75 Encina
Sampson, Ruth Adele : San Diego,	Engl. 49,	19 Madroño
Sanborn, Augustus Mudge : Redlands,	M. E. 39,	Phi Delta Theta
Sanborn, Ralph Edward : Yuba City,	Chem. 74,	Chi Psi
Sanborn, Thomas : Redlands,	C. E. 47,	Phi Delta Theta
Sandstedt, Carl Edward : Spangle, Wash.,	C. E. 100,	116 Encina
Sanford, Burnett : Palo Alto,	Phys. 10,	Phi Kappa Psi
[1]Sayre, Marjorie Antoinette : Tacoma, Wash.,	Frn. 29,	11 Salvatierra
Sayre, Sydney Lombard : Chicago, Ill.,	M. E. 6,	20 Lasuen
Sbarboro, Remo Earl : San Francisco,	C. E. 22,	S. Alpha Epsilon
Schaaf, Clara Lydia : Fort Wayne, Ind.,	Germ. 10,	255 Lytton P
Schaefer, Edna E. : Los Angeles,	Hist. 5,	19 Alvarado
Schaupp, Carl Louis : Santa Rosa,	Phyl. 44,	Phi Gamma Delta
Scheele, Norbert : Palo Alto,	Germ. 63,	625 Hamilton P
[1]Schellinger, Alfred Kirk : De Ruyter, N. Y.,	Geol. 135,	241 Cowper P
Schilling, Henry Joseph : San Jose,	C. E. 8,	536 S. 4th San Jose S
[1]Schindler, David Monroe : Woodland,	Econ. 12,	Kappa Sigma
Schmidt, Henry Emil : Redlands,	Law sp. 63,	148 Encina
[1]Schnack, Adolph Geo. C. : Honolulu, T. H., **A. B., Stanford, 1910.**	Chem. 120,	4 Encina
Schoenheit, Sophie Edith : San Jose, **A. B., Stanford, 1902.**	Germ. gr.,	73 E. Julian S. J. S

Scholefield, Crighton Welch : Hollister, M. E. 73, 34 Encina
Scholl, Albert John : Los Angeles, Phyl. 7, Kappa Sigma
Schuele, George E. : Vancouver, Wash., E. E. 66, Acacia
Schuyler, Howard Irving : Auburn, N. Y., Chem. 19, 132 Encina
Scofield, William Launcelot : Palo Alto, S. Bot. 80, 153 Encina
[2]Scott, Earl Theodore : Los Angeles, C. E. Encina
Scott, Leland : Alameda, Graph. 108, D.Kappa Epsilon
Scudder, Gertrude Louise : Moss, Hist. 76, 54 Roble
[2]Scull, Carolyne Beatrice : Palo Alto, Engl. 87, 250 Lowell P
Sears, Harry Johnson : Kidder, Mo., Chem. 89, 11 Alvarado
Seeley, Marjory : Los Gatos, Hist. 85, 51 Roble
Seeley, Ruth : Los Gatos, Chem. 13, 44 Roble
[2]Selby, Lisle Jay : Monterey, M. E., † Kappa Alpha
Sepulveda, Harry Barnes : Alameda, Econ. 27, Chi Psi
Seward, Richard Henry : Los Angeles, Econ. 37, Delta Upsilon
[1]Shanklin, Nathan, Jr. : San Luis Obispo, Pre L. 9, Univ. Hotel
Sharp, Homer J. : Long Beach, C. E. 109, 51 Encina
Shattuck, Charles Henry : Alameda, M. E. 48, D. Kappa Epsilon
[2]Shaul, Gilbert Lafayette, Jr. : San Diego, Pre L. Phi Delta Theta
[1]Shaver, Ethel Gertrude : Fresno, Germ. 30, Alpha Phi
Shaw, Frances Lilian : Bakersfield, Hist. 39, 58 Roble
Shaw, Sidney Burton : Campbell, E. E. 48, 90 Encina
Sheldon, Edwin Rowley : Palo Alto, Pre L. 52, 851 Univ. P
Sheldon, Josephine Wilmarth : Gilroy, Germ. 66, 6 Roble
Sheldon, Peryl Hazelle : Palo Alto, Graph. 14, 16 Alvarado
Shelton, James Errett : San Jose, Pre L. 108, 77 Encina
Shelton, William Cortez : San Jose, Law gr., Stanford Inn
A. B., Stanford, 1908.

Shepardson, Anita Arline : Los Angeles, Hist. 98, 31 Roble
Sherer, Gail Genevieve : Redlands, Zool. 7, 13 Roble
Sherfy, Samuel Hash : Blountville, Tenn., Bot. gr., 82 Encina
A. B., Stanford, 1909.

Sherman, Harold Meredith : Redlands, Pre L. 44, 146 Encina
Sherwood, Henry Lee : Addison, N. Y., S. Bot. 64, 515 Waverley P
[1]Shinn, Alice Eleanor : Oakland, Eng. 120, Walden
A. B., Stanford, 1910.

Shoemaker, Benjamin Dey : Pasadena, Chem. 106, 157 Encina
[1]Shoemaker, Chas. C., Jr. : Silver City, N. M., C. E. 10, T. Delta Chi
Shoemaker, Clyde Clarence : Orange, Pre L. 107, 77 Encina
[1]Shores, Ethelbert : Los Angeles, Geol. 38, Beta Theta Pi
Show, Esther Winifred : Palo Alto, Engl. 29, 353 Melville P

[1]Shultz, Robert Linville : Spokane, Wash.,	Econ. 9,	Delta Tau Delta
Shumate, Anna Matt : Palo Alto,	Hist. 102,	Alpha Phi
Sidwell, Wilson : Iowa City, Ia.,	C. E. 150,	182 Encina
Sieber, Bertha Wilhelmina : Woodland,	Lat. 40,	Pi Beta Phi
Siefert, Alfred L. Camille : Pasadena,	Phyl. 82,	College Terrace
[1]Sillers, Stansmore Donald : Chico,	E. E. 81,	334 Waverley P
Simmons, Frank H. : Minneapolis, Minn.,	Pre L. †5,	431 Univ. Ave
Simon, Cecil Stocker : Los Gatos,	M. E. 13,	Los Gatos L
[1]Simon, William Wayne : Canon City, Colo.,	Chem. 2,	220 Emerson P
Simonds, Sarah Louise : Pasadena,	Econ. 33,	Delta Gamma
Simons, Ada Beatrice : Los Angeles,	Graph. 38,	36 Roble
[1]Simpson, Ashleigh Brown : San Francisco,	C. E. sp. 17,	S.Alpha Epsilon
Simpson, William Edward : Bakersfield,	Law sp. 9,	543 Byron P
Sipes, Gail Johnston :Oklahoma City, Okla.,	Engl. 52,	400 Waverley P
[1]Skinner, John Kenneth : Los Angeles,	Geol. †	359 Emerson
[1]Skolfield, Esther May : Portland, Ore.,	Phyl. 72,	10 Roble
Slack, Walter : Juniata, Neb.,	Law gr.,	102 Encina
A. B., Stanford, 1909.		
Slade, Russell Clark : Menlo Park,	Econ. 16,	Beta Theta Pi
Slawson, Dora Gay : Townsend, Mont.,	Engl. 40,	660 Waverley P
Sloan, John Schuster : Sunnyvale,	Econ. 9,	Sunnyvale S
Small, Horatio L. : Palo Alto,	Geol. 59,	334 Cowper P
Smallpage, Lafayette John : Palo Alto,	Law gr.,	125 Encina
A. B., Stanford, 1909.		
Smart, Ornan Bridges : Long Beach,	Geol. 33,	S. Alpha Epsilon
Smith, Curtis Easdon : Boise, Idaho,	C. E. † 7,	347 Alma P
Smith, Caroline Ettella : Los Angeles,	Engl. 98,	5 Madroño
Smith, David Drake : Ocean Park,	C. E. 96,	127 Encina
Smith, Edgar Clarence : Azusa,	Pre L. 8,	531 Cowper P
Smith, Edith Howard : Honolulu, T. H.,	Engl. 10,	Delta Gamma
Smith, Elmer William : Ferndale,	Phyl. † 7,	840 Bryant P
Smith, Felita Mary : Fresno,	Germ. 51,	46 Roble
Smith, Harry Ellsworth : Saratoga,	Pre L. 97,	166 Encina
Smith, Harry James : Ferndale,	Phyl. 76,	840 Bryant P
Smith, Hazel Gladys : Palo Alto,	Grk. 107,	327 Cowper P
Smith, Howard Warren : Palo Alto,	Econ. 20,	327 Cowper P
[1]Smith, Lucus Folsom, Jr. : Santa Cruz,	Educ. 120,	Kappa Sigma
A. B., Stanford, 1910.		
Smith, Minnie Bertha : Olean, N. Y.,	Lat. 106,	29 Salvatierra
Smith, Stanley Bassett : Campbell,	Hist. 46,	31 Encina

Smith, Walter Olney : Fresno, **Ph. B., Iowa College, 1907.**	Geol. gr.,	College Terrace
Smith, Warren Locke : Ferndale,	Ent. † 10,	840 Bryant P
Smith, William Taylor : San Diego,	E. E. 24,	Phi Kappa Psi
Smitherum, Harrison : San Jose,	C. E. 73,	19 Encina
Smothers, Arthur E. : Ogden, Utah, **A. B., Northwestern University, 1906.**	C. E. gr.,	344 Emerson P
Smyth, Glen Miller : Salt Lake City, U.,	Chem. 8,	Phi Gamma Delta
Snell, Thomas William : West Saticoy,	E. E. 77,	44 Encina
Snyder, Gaylord Kenyon : Los Angeles,	E. E. 11,	Beta Theta Pi
Sobey, Hazel : San Francisco,	Hist. 27,	Delta Gamma
[2]Sobey, Wilfred John : San Francisco,	Phyl.	Phi Delta Theta
[1]Somers, Helen Louise : Hollywood,	Engl. 12,	1 Alvarado
Sontheimer, Urban Alexander : San Jose,	Pre L. 43,	97Auzerais,S.J.S.
Soo-Hoo, Peter : San Rafael,	C. E. 143,	21 Alvarado
Soper, Ralph Hamilton : Palo Alto,	Geol. 47,	305 Lytton P
Soult, Harold Houser : Osborne, Kans., **A. B., Washburn College, 1907.**	C. E. 137,	241 Cowper P
Sours, Lulu Adnimra : Wichita, Kans.,	Educ. 103,	730 Hamilton P
[2]Southard, Grace Georganne : Redlands,	Germ. 29,	Gamma Phi Beta
Southard, William White : Redlands,	Phyl. 105,	57 Encina
Spalding, Helen Godfrey : Los Angeles,	Engl. 36,	K. Alpha Theta
[1]Spalding, Thomas Richard : Los Angeles,	Pre L.	Phi Delta Theta
Specht, Ida Louise : Rockwell, Ia.,	Math. 60,	3 Roble
Spellman, Thomas Joseph : Colma,	C. E. 9,	255 Homer P
Spence, Homer Roberts : Alameda,	Pre L. 12,	Chi Psi
[2]Spencer, Daisy : Palo Alto,	Hist.	421 Guinda P
Spencer, Esther Jean : Palo Alto, **A. B., Stanford, 1907; A. M., 1909.**	Lat. gr.	233 Addison P
Spooner, Emma Nadieu : San Jose,	Frn. 44,	203S.14thSanJoseS
Squire, Caroline Elizabeth : Palo Alto,	Germ. 29,	900 University P
Staber, Ernest Henry :Mineral Point, Wis.,	Chem. 98,	334 Waverley P
Stabern, Suzanne : San Francisco,	Engl. 12,	7 Alvarado
Stadler, Marie Helena : Helena, Mont.,	Phyl. 6,	1121 Bryant P
Stafford, Kathleen : San Jose,	Lat. 55,	16 Roble
[1]Stafford, Victoria Adelaide : Chicago, Ill.,	Engl. 103,	Pi Beta Phi
Stager, Cora Elizabeth : Montclair, N. J., **A. B., Stanford, 1909.**	Germ. gr.,	532 Homer P
Stahl, John A. : San Francisco,	Econ. 76,	16 Salvatierra
Stahl, Lionel Adolf : San Francisco,	Hist. 23,	Encina
Stanton, LeRoy Hamilton : Los Angeles,	Econ. 12,	S. Alpha Epsilon

Stark, Theodore K, : Grundy Center. Ia., Econ. 68, 33 Encina
Starkweather, Esther Violet : Tulare, Phyl.41, Madroño
[2]Starr, Sarah Helen : Seattle, Wash., Hist. 108, K.KappaGamma
Stauf, Ida : Palo Alto, Germ. 109, 454 Forest P
Stearns, Glenn Warwick : Palo Alto, Span. 37 No. Palo Alto P
Steck, Louis George : Colton, S. Bot. 30, 35 Encina
Steinbeck, Grace Clare : Stockton, Zool. 79, Delta Delta Delta
[1]Steinberger, Arthur Adolph : San Fran., Pre L. 121, 16 Salvatierra
A. B., Stanford, 1910.
[2]Stephenson, Burroughs Agin : Palo Alto, C. E. 37, 441 Emerson P
[1]Stevens, Ralph Partridge : Palo Alto, M. E. sp. 11, College Terrace
Stevens, Verne Genoa : Palo Alto, Bot. 13, 926 Cowper P
Stever, Robert Frederick : Davenport, Ia., Law sp. 39, Phi Kappa Psi
Stewart, Edwin John : Riverside, Geol. 27, 21 Lasuen
[2]Stewart, James : Chico, E. E. 20, 415 Lytton
[1]Stewart, Royal Elmer : Reno, Nev., Geol. 17, 5 Lasuen
Stewart, Spurgeon Domville : La Mesa, Law gr., 94 Encina
Ph. B., Hamline University, 1905.
Stidston, Russell Osborne : Los Gatos, Engl. 80, Los Gatos L
Stillman, Dorothy Maxson : Stanford Univ., Engl. 34, 2 Alvarado
Stoll, Leland Clyde : Sacramento, Pre L. 22, Phi Gamma Delta
Stolle, Francis : Palo Alto, Phyl.-Med.103, 683Ham't'nP
Stolz, Herbert Rowell : Redlands, Phyl. 90, Delta Upsilon
Stone, Alta Dorthula : Tropico, Phys. 101, 611 Waverley P
Stone, Herbert : Martinez, Geol. sp. 28, 1229 Webster P
[1]Strachan, Nina Margaret : Palo Alto, Zool. 49, 422 Tasso P
Straus, Irene : San Francisco, Frn. 13, 14 Madroño
[2]Stripe, Walter Lee : Waukegan, Ill., Chem. 1052 Bryant P
Strong, Malcolm Wheelock : Plainfield, N. J., Engl. 34, Beta Theta Pi
Stuart, Donald Bostwick : Portland, Ore., Pre L. † 10, 5 Lasuen
Stuart, Mary Virginia : Redlands, Math. 69, 6 Roble
Sturla, Rose Florence : Mountain View, Hist. gr., 16 Alvarado
A. B., Stanford, 1910.
Sudden, Ruth Catherine : Ventura, Hist. 40, 26 Madroño
Suehiro, Matsunosuke : Yamaguchiken, Jpn., E. E. 10, Japanese Club
Sugars, Nell Muriel : Los Angeles, Educ. 41, 260 Homer P
Sugino, Shigeichi : San Francisco, C. E. sp. 11, Japanese Club
Suits, Elihu Edward : Santa Monica, M. E. 8, College Terrace
[1]Sullivan, George : San Diego, Econ. † 1, 5 Lasuen
Summerfield, Arthur Clifford : San Fran., E. E. 14, 5 Lasuen
Summerfield, Lester Douglas : Reno, Nev., Pre L. 45, 5 Lasuen

Sundell, Alfred Luis : Alameda, Geol. 20, D. Kappa Epsilon
Sutter, Milton Leroy : San Diego, Econ. 39, 193 Encina
Suzuki, Tomitaro : Los Angeles, Engl. 13, Japanese Club
Swafford, Henry Watson : San Jose, Econ. 26, S. Alpha Epsilon
Swan, Guy Carleton : Lawrence, Mass., Chem. sp. 11, 305 Alma P
Sweet, Lloyd Dudley : Chinook, Mont., M. E. 9, 431 Univ. P
Swen, Harry Archie : Salt Lake City, U., Geol. 7, Sigma Chi
Swickard, James Blaine : Edenvale, C. E. 105, 104 Encina
Swift, Emeline Adelaide : Montecito, Econ. 64, 4 Roble
Swift, Faith A. : Santa Cruz, Zool. 40, 353 Lytton P
Swift, May Viola : Montecito, Math. gr., 6 Madroño
A. B., Stanford, 1909.
Swigart, Clyde Arthur : San Francisco, C. E. 82, 131 Encina
Swim, William Allan : Millersville, Ill., Phyl. 9, 415 Lytton P
Taber, Arthur Pratt : Red Wing, Minn., E. E. 12, 269 Addison P
Tabor, Clarence Edward : Eureka, C. E. 53, 67 Encina
Tag, Tessie : Los Angeles, Germ. 15, 1125 Ramona P
Taggart, Arthur Fay : Stanford Univ., Geol. gr., 192 Encina
A. B., Stanford, 1909.
Talbot, Sterling John : Pasadena, Grk. 58, 1106 Bryant
Talboy, Archibald Carlisle : Sioux City, Ia., Pre L. 75, 311 Middlefield P
Talboy, Della Irene : Sioux City, Ia., Lat. 48, 311 Middlefield P
Tallant, Charles Harold : Santa Barbara, E. E. 79, 134 Encina
[1]Tate, Harriette Durant : Altadena, Lat. 57, Delta Gamma
[2]Taverner, Frances Kate : San Jose, Engl. 22 Roble
Taylor, Arthur : Los Angeles, C. E. 70, Phi Delta Theta
Taylor, Cary Peebles : Chico, E. E. 102, 161 Encina
Taylor, Charles Chappell : Selma, C. E. 42, Encina
Taylor, Leroy Edward : Menlo Park, Econ. 31, Menlo Park M
Taylor, Louis John : Los Angeles, Geol. 80, 66 Encina
Taylor, Nelson : Los Angeles, C. E. sp. 75, Phi Delta Theta
Templeton, Eugene Crittenden : Palo Alto, Geol. 106, 375 Everett P
Tennant, Harold Manley : Rockwell City, Ia., Educ. 53, 128 Encina
[1]Theile, William Christian : Emmetsburg, Ia., Law gr., Delta Upsilon
A. B., Stanford, 1909.
Thoburn, James Harold : Palo Alto, Phyl. 8, 329 Lincoln P
Thomas, Dan Horace : Santa Ana, Geol. 27, Chi Psi
[2]Thomas, Edna Rose : Amedee, Engl. 28, 29 Roble
[1]Thomas, Henriette Gilstrap : Woodland, Grk. gr., 28 Madroño
A. B., Stanford, 1909.
Thomas, James Carl : Los Angeles, Econ. 36, Delta Tau Delta

Thomas, William Henry : Moscow, Idaho, C. E. 87, 190 Encina
Thomison, Joel D. : Fayetteville, Tenn., Pre L. 89, Sigma Chi
Thompson, Della : Whittier, Lat. gr., Pi Beta Phi
A. B., Stanford, 1909.
[2]Thompson, Edward Bigelow : Pittsburg, Pa., Engl. 5 Lasuen
Thompson, Elizabeth : Palo Alto, Engl. gr., 635 Waverley P
A. B., Stanford, 1910.
Thompson, Georgia Emily : San Diego, Phyl. 87, 16 Alvarado
[1]Thompson, Hannah Trainer : Pasadena, Germ. 84, Madroño
Thompson, James Ernest : San Jose, Law sp. 65, 131 Encina
[2]Thompson, Mildred H. : Buffalo, N. Y., Engl., 1 Alvarado
Thompson, Thomas West : Palo Alto, Geol. 23, 909 Alma P
Thompson, William F. : Everett, Wash., Zool. 95, 1115 Ramona P
Thomson, Elizabeth : Omaha, Neb., Educ. 99, 16 Alvarado
[2]Thorndyke, Ethel Dorothy : San Francisco, Hist. Madroño
[1]Thorpe, Charles Alfred : Ioamosa, Math. 65, Beta Theta Pi
Thurmond, Blanche Amelia : Carpinteria, Germ. 106, 27 Roble
Thurmond, Hugh Gwyn : Carpinteria, C. E. 49, 107 Encina
Tiedemann, Tudor Herman A. : Alameda, Hist. 24, Phi Kappa Psi
Tincher, Eugene Earl : Long Beach, Pre L. 28, 172 Encina
Tisdale, Marjorie Minnie : Redlands, Law sp. 3, Delta Gamma
Tittle, Ward Clark : San Francisco, Law sp. 23, 120 Encina
[1]Todd, Laura : Oakland, Germ. 69, 11 Madroño
Todd, Monette Osie : Riverside, Hist. 105, 49 Roble
Tognazzini, Irene Amanda : Cayucos, Phyl. 8, 64 Roble
Topham, James Scott : Washington, D. C., C. E. sp. 46, 142 Encina
[2]Topp, Augustus : San Francisco, Graph. Delta Kappa Epsilon
Tower, Mary Sherburne : San Jose, Germ. gr., 747 Chapman S. J. S
A. B., Stanford, 1909.
[1]Towne, Gardner Bowers : Palo Alto, Econ. 25, Zeta Psi
[2]Townsend, Frances J. : N. Yakima, Wash., Graph., 603 Waverley P
Toy, Susan Maude : San Luis Obispo, Educ. 37, 324 Emerson P
[2]Trace, Gertrude May : San Jose, Educ. 730 Univ. Ave., S. J. S
Tracy, Howard Sloane : Los Angeles, Pre L. 73, 172 Encina
Treacy, Frederic William : Helena, Mont., Econ. 14, Kappa Alpha
Trost, Helen Gertrude : San Jose, Educ. 8, 396 S. 6th San Jose S
Tsuchiya, Shiusei : Pasadena, E. E. sp. 42, Japanese Club
Tsuzaki, Mitsuji : Palo Alto, E. E. sp. 40, Forest Court
Tucker, Warren, Jr. : Redlands, Pre L. 33, 184 Encina
Tully, Genevieve Morton : San Jose, Engl. 90, 22 Roble
Tupper, Charles Ralph : San Jose, C. E. 73, 211 S. 8th, San Jose S

Turner, Thomas Norton : San Francisco, Geol. 41, S. Alpha Epsilon
Turpin, Charles Sawyer : Mill Valley, Pre L. 5, Delta Tau Delta
Tuttle, Ruth Claire : Watsonville, Germ. 13, 11 Salvatierra
Twombly, Harriet Elizabeth : Palo Alto, Phyl. gr., 850 Ramona P
A. B., Stanford, 1908.
Twombly, Margaret Marie : Palo Alto, Phyl. 51, 850 Ramona P
Tyson, Blakely M. : New York, N. Y., Econ. 26, S. Alpha Epsilon
Upham, Francis Curtis : San Mateo, Educ. 11, San Mateo S
Upson, Burchell Williams : Sacramento, C. E. 103, D. Kappa Epsilon
Utter, Ben Watkins : Sacramento, Pre L. 101, 151 Encina
Utzinger, Otto Emile : Astoria, Ore., Phyl. 102, 10 Encina
Van Dyke, Benjamin Franklin : Ukiah, Chem. 41, 167 Encina
Van Epps, Carolyn Mae : Palo Alto, Graph. gr., 627 Channing P
A. B., Stanford, 1909.
Van Gulpen, Mildred Mathilda : Berkeley, Hist. 10, 7 Alvarado
[2]Van Sicklen, Wm. J. : Castleton, Ont., Can., Chem. 72, 617 High P
Van Sicklin, Helen May : Weiser, Idaho, Germ. 6, 7 Alvarado
Van Slyck, Kenneth : El Paso, Texas, Econ. 65, 5 Alvarado
Van Zwalenburg, Bertha F. : Riverside, Germ. 41, Delta Delta Delta
Van Zwalenburg, Mabel Elouise : Riverside, Germ. 105, Delta Delta Delta
Vaughn, Romney Leigh : Oakland, C. E. 24, 359 Emerson P
Vickers, Joseph W. : Los Angeles, Pre L. 47, 43 Encina
Vickrey, William W. : Los Angeles, Econ. 8, Kappa Sigma
Villegas, George Andrew : Santiago, Chile, M. E. 30, 646 Waverley P
[2]Virmani, Deni Dyal : Panjah, India, Chem. sp., College Terrace
Visel, Jack Angele : Santa Ana, Pre L. 47, Kappa Alpha
[2]Volkmor, Mary Hilda : Whittier, Math. 65 Roble
Vrang, Christion Madsen : San Rafael, Econ. sp. 5, S. Alpha Epsilon
Wada, Totaro : San Francisco, Econ. 23, 305 Lytton P
Wade, Benjamin Franklin : Long Beach, C. E. 85, Phi Delta Theta
Wadsworth, James Milton : Santa Rosa, C. E. 108, 13 Encina
Waelty, Waldo Ralph : Santa Clara, Chem. 12, Santa Clara S
Wagner, Vesta Marion : Ventura, Engl. 12, Kappa Alpha Theta
Wait, Robert Cyrus : Reynolds, Ill., Pre L. 40, Sigma Chi
Waite, Judith : Lewistown, Mont., Phys. 39, Gamma Phi Beta
Wakeman, Earl Seeley : Palo Alto, Pre L. 114, 451 Ruthven P
Waldraff, Paul Herman : San Mateo, Chem. 114, 417 Emerson P
Walker, Alice Edna : Los Angeles, Econ. 103, 23 Roble
Walker, Charles Glenn : Ceres, C. E. 74, 33 Encina
Walker, David Henry, Jr. : San Francisco, C. E. 106, 58 Encina
Walker, Leland Harrison : Los Gatos, Pre L. 44, Los Gatos L

Wall, Rupert : Early, Ore., E. E. 102, 625 Homer P
B. S., Oregon Agricultural College, 1908.
Wallace, Annie Blanche : Los Angeles, Lat. gr., 17 Roble
A. B., Stanford, 1910.
Wallace, Bruce : Visalia, Geol. 38, Chi Psi
Wallace, Gertrude Elizabeth : Rialto, Engl. 42, Delta Delta Delta
Wallace, Roger Wayne : Indianapolis, Ind., Law gr., 1001 Ramona P
A. B., Butler College, 1909.
Walton, Lois Mae : Santa Barbara, Engl. 10, 1 Alvarado
Ward, Martin Luther, Jr. : San Diego, Pre L. 40, 122 Encina
Ward, Paul Philip : San Diego, Pre. L. 40, 122 Encina
[1]Ware, Mabel : Santa Rosa, Engl. 15, 23 Roble
Waring, Clarence Almon : Mayfield, Geol. 55, College Terrace
Warlow, Chester Harvey : Fresno, Pre L. 57, Sigma Chi
Warren, Herbert Clifton : Glendora, M. E. 101, 155 Encina
Warrick, George Fred : Santa Monica, M. E. 71, 431 Univ. Ave. P
Warrior, Mabel : Mayfield, Graph. 110, EvergreenParkP
Warthorst, Bertha Lydia : Bakersfield, Phys. 69, 38 Roble
[1]Washburn, Henry Lord : San Jose, C. E. 8, Menlo Park M
Waterman, Herbert Alton : San Francisco, C. E. 72, 19 Encina
Waters, Pearl Elizabeth : Santa Clara, Math. 52, Santa Clara S
Watkins, Vida Mildred : Kingman, Ariz., Bot. 38, 45 Roble
Watkins, Zoe Lucile : Kingman, Ariz., Hist. 106, 44 Roble
Watters, Ethel Madelaine : Santa Cruz, Med. gr., 12 Alvarado
A. B., Stanford, 1909.
Waugh, Clarence Wendell : Brooklyn, N. Y., Phyl. 75, 195 Encina
Weaver, Elmer Rupel : Raisin, Chem. 106, 24 Encina
[1]Weaver, Emma Angeline : San Jose, Engl. gr., 183 Lupton S.J.S.
A. B., Stanford, 1909.
Weaver, Eva Ray : Colorado Springs, Colo., Germ. 8, 628 Webster P
[2]Weaver, William Irvin : Colo. Spgs., Colo., Chem. 628 Webster P
Webb, Raymond Prescott : Los Angeles, C. E. 104, 52 Encina
Weeks, James Paschal : Red Bluff, C. E. 45, 536 Ramona P
[2]Weist, Dwight Wilson : Champaign, Ill., Econ. gr., 225 Addison P
B. S., Ohio State University, 1905.
Weldt, Amy Marie : San Pedro, Hist. 5, 9 Roble
Wells, Albert Huntington : Auburn, N. Y., Chem. 78, Univ. Hotel
Wells, James Bertrand : Palo Alto, C. E. 76, 365 Guinda P
[1]Wendling, Bessie Lee : Los Angeles, Lat. gr., Pi Beta Phi
A. B., Stanford, 1909.
Wendling, Florence Martha : San Fran., Hist. 43, K. Kappa Gamma

Wenk, Morris : Stockton,	E. E. 79,	21 Alvarado
[1]West, George Emory : Durango, Colo.,	Pre L. sp.,	319 Alma P
[1]West, Robert Joseph : San Francisco,	Law sp.,	Chi Psi
Westwick, Alice Eliza : Santa Barbara,	Germ. 76,	2 Roble
[2]Westwick, Robert C. : Santa Barbara,	C. E. 68,	College Terrace
Weymouth, Frank Walter : Tacoma, Wash., A. B., Stanford, 1909.	Zool. gr.,	32 Encina
Weyse, Alice Caroline : Los Angeles,	Hist. 14,	Walden
Wheaton, Carl Crumbie : Palo Alto,	Pre L. 71,	127 Cowper P
*[1]Wheeler, Charles Roland : Modesto,	Engl.	21 Lasuen
Wheeler, Raymond Bert : Pasadena,	Engl. 57,	Beta Theta Pi
Wheeler, Ruth Ermina : Denver, Colo.,	Germ. 102,	Gamma Phi Beta
[2]Whelan, Eva Blanche : Los Angeles,	Hist. 28,	11 Salvatierra
Whipple, Stephen Knight, Jr. : Burlingame,	C. E. 34,	Burlingame B
Whitaker, Ralph Warren : Lebanon, Ind.,	C. E. 6,	Delta Upsilon
White, Helen : Alameda,	Frn. 70,	K. Kappa Gamma
[2]White, Henry Austin : Honolulu, T. H.,	C. E. 42,	Chi Psi
White, Herbert Eustace : Sacramento,	Pre L. 64,	116 Encina
White, Walter Noy : Los Angeles,	C. E. sp. 117,	Acacia
Whitney, Clyde Carl : Santa Ana,	Pre L. 29,	Kappa Alpha
Whittemore, Jay R. : Los Angeles,	Pre L. 34,	Phi Kappa Psi
Wiedman, Edwin Marston : Pony, Mont.,	Geol. sp. 7,	200 Kingsley P
Wiedman, Raymond Henry : Pony, Mont.,	Pre L. sp. 7,	200 Kingsley P
Wiggins, John Henry : Neosho Falls, Kans.,	C. E. 90,	142 Encina
Wilbur, Ross Andrew : West Butte,	M. E. 5,	14 Salvatierra
Wilcox, Robert W. : Delta, Colo.,	Phyl. 10,	261 Homer P
Wilde, Frank Luquer : Dobbs Ferry, N. Y.,	Geol. 68,	Sigma Chi
Wiles, Coral Agnes : Chico,	Engl. 39,	38 Roble
Wiley, Korah Belle : Palo Alto,	Lat. 73,	543 Byron P
Wilke, Elisabeth Eveline : Mayfield,	Germ. 8,	Box 312 P. A. P.
Wilkeson, Livingston E. : Tacoma, Wash.,	Geol. 29,	Zeta Psi
Wilkins, Edith Amelia : Bolinas,	Bot. 75,	11 Roble
Wilkins, Helen Morse : Bolinas, A. B., Stanford, 1909.	Engl. gr.,	11 Roble
Willard, Frankie : Escondido,	Ent. 81,	39 Roble
Willard, Marguerite : Redwood City,	Germ. 45,	Redwood City R
Williams, Florence : Hollywood,	Bot. 82,	41 Roble
Williams, Harry Kingsley : Los Angeles,	C. E. 11,	5 Lasuen
Williams, Laurence Davis : Yuba City,	C. E. 43,	318 University
Williams, Sydney Lloyd : Redwood City,	E. E. 12,	Redwood City R

*Died October 7, 1909.

[1]Williamson, Margaret : Salt Lake City, U., Germ. 13, 65 Roble
Wilson, Clarence John Ramsey : Anaheim, C. E. 81, 181 Encina
Wilson, Cozymine : Pasadena, Engl. 107, 4 Roble
Wilson, Florence Mollie : Los Angeles, Hist. † 10, Delta Gamma
Wilson, Francis Goodspeed : Santa Cruz, Econ. sp. 69, Kappa Sigma
Wilson, James F. : Little Rock, Ark., C. E. 48, 55 Encina
Wilson, Marguerite Elizabeth : Los Angeles, Hist. 70, Delta Delta Delta
Wilson, Neill Compton : Oakland, Pre L. 35, Delta Tau Delta
Wilson, Weston Stephens : Los Angeles, Econ. 30, Zeta Psi
[1]Wiltz, Lena G. : San Jose, Graph. 105, 43 Roble
[1]Winant, Marguerite Watts : Alameda, Educ. † 265 Lytton P
[1]Winder, Norman : Cedarville, C. E. sp., 405 Emerson P
Wing, Sumner Paddock : Palo Alto, C. E. 9, 345 Lincoln P
Winters, Verne William : Spokane, Wash., M. E. 51, Phi Delta Theta
[1]Winton, George Edgar : Merced, C. E. sp. 7, 9 Salvatierra
Wiseman, Alta Echo : Famoso, Math. 43, 15 Roble
Wishard, Alice Mary : Des Moines, Ia., Graph. 43, Sunnyvale S
[1]Wishard, Helen Louise : Des Moines, Ia., Germ. 31, 804 Bryant P
[2]Wolff, Carrie Boole : San Fernando, Engl. 321 Cowper P
Wolff, Franklin Fowler : San Fernando, Math. 77, 321 Cowper P
Wollaston, Charles Hyde : Santa Ana, C. E. 30, 25 Encina
[1]Wong, Tuck Ting : Sun Ning, China, Econ. 417 Emerson P
Wood, Barton Dixon : Merced, M. E. 13, Theta Delta Chi
[1]Wood, Edward Huffner : Escondido, Pre L. † 2, Encina
Wood, Francis Horace : Redlands, Econ. † 3, 567 Forest
Wood, Frederick Bertram : Palo Alto, Pre L. 106, 1757 Waverley P
Wood, George William : Santa Cruz, Econ. 100, 31 Encina
Wood, Mamie Etta : Whittier, Engl. 75, 16 Alvarado
Woodcock, Cecil Elbert : Portland, Ore., E. E. 68, 145 Encina
Woodhead, Florence Miriam : Los Angeles, Phil. 83, 3 Alvarado
Woodhead, Lora Mae : Los Angeles, Zool. 92, 3 Alvarado
Woods, George Edward : Los Gatos, M. E. 10, Los Gatos L
Woodville, Robert : Bay City, Pre L. 61, S. Alpha Epsilon
[2]Woodward, Robert Clarence : Muncy, Pa., Chem. † 4 Lasuen
Woolley, James Earl : Santa Rosa, Pre L. 25, College Terrace
Wooster, Roy Neill : Spokane, Wash., E. E. 108, 4 Encina
Worden, Waldo Stephen : San Jose, E. E. 10, 41 S. River, San Jose S
Workman, Gertrude Dardier : Los Angeles, Engl. 28, 11 Salvatierra
Wormser, Mary : San Diego, Hist. 73, 1 Alvarado
Worswick, George Draper : San Jose, Econ. 9, S. Alpha Epsilon
Wright, Adaline : Pasadena, Germ. 106, K. Kappa Gamma

[1]Wright, Alfred : Los Angeles, Pre L. 69, Zeta Psi
Wright, George Ireland : Pasadena, E. E. sp. 12, PhiGammaDelta
[2]Wright, Lester Augustus : San Diego, C. E. 27, Phi Kappa Psi
Wyant, Carlton Levi : Montecito, C. E. 45, 103 Encina
Wyman, William McKee : Santa Barbara, Pre L. 40, Theta Delta Chi
Yoch, Agnes Cecelia : Santa Ana, Span. 31, 16 Alvarado
Yoder, Noah S. : Palo Alto, Educ. gr., Hoitt's Sch. P
A. B., Stanford, 1907.
Yokozeki, Hirosaburo : San Francisco, Econ. 7, Japanese Club
Youker, Malcolm Phillip : Santa Rosa, C. E. 82, 139 Encina
[1]Young, Bernard Aloyius: Palo Alto, Pre L. 3, 745 Waverley P
Young, Clarence R. : Eureka, C. E. 101, Kappa Sigma
Young, Frank Herbert : Fort Jones, Econ. 20, Theta Delta Chi
Young, Hayes Wilson : Mojave, Geol. 88, 20 Encina
Young, James Reed : Deerfield, Ohio, Educ. gr., College Terrace
B. L., Berea College, 1907; A.B., Stanford, 1909.
[1]Young, John Arthur : Los Angeles, M. E. 132, 129 Encina
A.B., Stanford, 1910.
Young, Sarah Irene : Salt Lake City, Utah, Engl. 60, 430 Ramona P
Young, Stanley Colin : Taylorsville, Pre L. 37, 72 N.8th,San Jose

SUMMER REGISTRATION 1909

Field Geology

Adams, William Welsh
Ainsworth, Howard D.
Baker, Thomas Childrey
Bell, John Henry
Burgren, Arthur William
Cashbaugh, William Augustus
Frolli, Albert William
Garfias, Valentine R.
Macready, George Alexander
Mann, Horace
Martin, George Everett
Melczer, George Everett
Osborne, Raymond Gaylord
Parsons, Benjamin Everett
Peterson, Clarence J.
Randall, Charles Alfred
Schwennesen, Alvin Theodore
Soo-Hoo, Peter
Turner, Frank Warren

Marine Biological Laboratory.

1. *Occupying Investigators' Rooms*

Allen, Wilfred, Graduate University of Nebraska.
Chamberlin, Ralph V., Ph.D., Professor of Zoology, Brigham Young College, Provo, Utah.
Culver, George B., A. B., Professor of Biology, Los Angeles High School.
Holmes, Samuel J., Professor of Zoology, University of Wisconsin, Madison, Wis.

Taking Regular Courses

Ardzrooni, Leon
Bardin, Hazel Jane
Boyle, William Archdale
Clark, Eva Belle
Clark, Gladys Willamary
Dennis, Dede Irma
Drew, Arthur Homer
Duffus, Robert Luther
Duffus, William McG.
Eddy, Beatrice E.
Eddy, Helen Frances
Fisher, Marshall Weston
Flickinger, Helen
Flickinger, Margaret
Frost, Albert A.
Glendenning, Roy James
Harris, Miriam Alice
Hauswirth, Frieda M.
Hayden, Edith
Henry, Thomas Cecil
Hess, Harry Lee
Hiller, Hazel
Jackson, Frank Kennedy
Jeffreys, Anna Ernestine
Jenkins, Alice Mabel
Johnson, Carrie Jette
King, Harriet Shulze
Kobbe, Eric
Lee, Bradner Wells Jr.
Long, Burton Earl
Maddox, Ruth Evalina
Mills, John Herman
Mitchell, Mowatt Merrill
Myers, Robert Folsom
Nagel, Helen May
Palmer, Ethel Rebecca
Randall, Josephine Dows
Rich, Willis Horton
Sheldon, Josephine Wilmarth
Williams, Florence

SUMMARIES

Officers

Trustees		15
Faculty		
Professors	58	
Associate Professors	24	
Assistant Professors	40	
Instructors	38	
Assistants	64	
Lecturers	4	228
Other Officers		83

Students

Graduates		
Accepted Candidates for Degree of A. M.	30	
Accepted Candidates for Degree of Engineer	2	
Accepted Candidates for Degree of J. D.	4	
Accepted Candidates for Degree of Ph. D.	2	
Other Graduate Students	119	157
Undergraduates		1498
Special Students		89
Total		1744
Summer Registration	63	
Less names already counted	47	16
Total (including Summer Registration)		1760

By Major Subjects

	GRADUATE	UNDER-GRADUATE	SPECIAL	TOTAL
Greek	3	8	—	11
Latin	12	28	—	40
Germanic Languages	9	85	—	94
Romanic Languages	3	37	—	40
English	17	131	1	149
Psychology	—	3	—	3
Philosophy	1	4	—	5
Education	8	31	—	39
History	16	134	2	152
Economics and Social Science	13	132	12	157
Law	26	*36	24	86
Pre Legal Course	—	185	4	189
Graphic Arts	2	43	2	47
Mathematics	2	20	—	22
Physics	5	8	—	13
Chemistry	5	70	4	79
Botany	4	25	—	29
Physiology and Histology	4	63	3	70
Zoology	5	18	1	24
Entomology	2	10	1	13
Geology and Mining	6	89	5	100
Civil Engineering	2	178	16	196
Mechanical Engineering	2	60	7	69
Electrical Engineering	1	100	7	108
Medicine	9	†5	†1	15

* Seniors in Pre Legal Course counted as Law Majors.

† Also registered as Physiology Majors.

By Residence for the Year

California	1364	Texas	3
Washington	42	Wyoming	3
Oregon	30	Kentucky	2
Iowa	25	Maine	2
New York	25	Michigan	2
Illinois	25	North Dakota	2
Colorado	19	Tennessee	2
Utah	17	Vermont	2
Montana	16	Alabama	1
Hawaii	14	Alaska	1
Ohio	12	Arkansas	1
Indiana	11	Connecticut	1
Kansas	11	Maryland	1
Pennsylvania	10	Mississippi	1
Arizona	9	Rhode Island	1
Missouri	8	Japan	9
Idaho	7	Australia	5
Nevada	7	Canada	4
Massachusetts	5	India	3
Minnesota	5	Mexico	3
Nebraska	4	China	2
New Mexico	4	Holland	2
Wisconsin	4	Austro-Hungary	1
District of Columbia	3	Chile	1
New Jersey	3	England	1
Oklahoma	3	Ireland	1
South Dakota	3	Switzerland	1

ALUMNI ASSOCIATION

[Organized June 15, 1892]

CONSTITUTION

(As amended May, 1908)

In order to promote the interests of the University, to secure unity among its graduates, and to foster an attachment to our *Alma Mater*, we do hereby constitute ourselves an association to be known as the Alumni Association of the Leland Stanford Junior University.

I. MEMBERSHIP

1. All persons who have received a degree from the Leland Stanford Junior University are members of this Association.

2. All members of the Faculty are honorary members of this Association.

II. OFFICERS

1. The officers of this Association shall be: (1) a President; (2) one Vice-President for each successive group of five classes (provided that when the last group shall number three classes it shall thereafter be entitled to a Vice-President); (3) a Secretary-Treasurer; (4) an Executive Committee consisting of the Secretary-Treasurer and four other elected members, one of whom shall be designated as Chairman, but the President shall not be a member of the Committee; and (5) an Advisory Board, consisting of the President, one representative elected by the graduating class for the term of one year, and nine elected members who shall be graduates of five years' standing, and who shall be elected for three year terms. At the first election held subsequent to the adoption of this section the nine elected members shall be divided into three groups, the three receiving the highest number of votes shall hold office for three years, the three receiving the next highest shall hold office for two years, and the remaining three shall hold office for one year. Thereafter at each annual meeting there shall be elected three members for terms of three years each. The Advisory Board shall elect its President and Secretary.

2. All other officers shall serve for one year or until their successors are elected.

III. DUTIES OF OFFICERS

1. It shall be the duty of the President to preside at all business meetings of the Association, to deliver the President's address on

Alumni Day, and to perform such other duties as usually belong to his office.

2. It shall be the duty of the Vice-Presidents, in the order of seniority of their groups, to preside in the absence of the President and to perform the other duties belonging to his office.

3. It shall be the duty of the Secretary-Treasurer to keep accurate minutes of the meetings of the Association and to act as Secretary of the Executive Committee, of which he shall be a member.

4. It shall also be the duty of the Secretary-Treasurer to have charge of the collection and disbursement of the funds of the Association.

5. The Secretary-Treasurer shall be allowed ten per cent of all dues or assessments collected, as compensation for his services.

6. It shall be the duty of the Executive Committee to arrange for the programme to be presented on Alumni Day; or any programme for other public occasions; to regulate the finances of the Association; to perform such other duties as may be imposed upon it; and to attend to all business of the Association not otherwise provided for.

7. It shall be the duty of the Advisory Board, when deemed advisable, to consult alumni, undergraduates, faculty, and trustees, and to make recommendations regarding the welfare of the University and of the Alumni Association.

IV. COMMITTEES

1. The President shall be ex-officio a member of all Committees, except the Executive Committee.

2. At each annual business meeting the President shall appoint a committee of two persons to audit the Treasurer's accounts.

V. ELECTIONS

1. The February issue of the *Alumnus* shall give notice of the annual nomination and election of officers of this Association. Said notice shall contain the names of the incumbent officers and shall indicate the hold-over members of the Advisory Board, and shall contain in full the provisions of this Constitution relating to nominations and elections.

2. Nominations in writing, signed by at least twenty members, shall be required for any nomination. Nominations shall be forwarded to the Secretary-Treasurer between the first day of February and the first day of April of each year. On or before the fifteenth day of April of each year, the Secretary-Treasurer shall mail to every member of this Association, whose address he knows, an official ballot containing all the nominations, with the addresses of the nominees and the number of

proposers of each, and said ballot shall be published in the May issue of the *Alumnus*.

3. Officers shall be elected at an annual election to be held at Stanford University on Alumni Day, between the hours of nine o'clock A. M., and twelve o'clock noon. The Executive Committee shall have charge of the election. The elector may cast a written ballot in person, or by mail addressed to the Secretary-Treasurer, marked "Ballot" and disclosing the sender's name, and enclosing a ballot in a plain envelope. Ballots so received shall be opened and cast only during the hours of election. The respective candidates receiving the highest number of votes shall be declared elected. A tie vote shall be decided by lot.

4. No one whose annual dues are in arrears for the current year shall be entitled to vote or to hold office.

VI. DUES

The dues of the Association shall be $1.25 per year for each member thereof, which amount shall include a subscription to the *Alumnus*.

VII. MEETINGS

Meetings of the Association may be called by the President or by petition of twenty members, said meetings to be held at Stanford University.

VIII. AMENDMENTS

Any proposition to alter or amend these Articles of Association must be proposed in writing, signed by twenty members, and submitted to the members by mail in printed form by the Secretary-Treasurer, and voted upon in the same manner as are nominations for officers, and adopted by a majority vote.

IX. FIRST ELECTION

For the purpose of putting this Constitution into effect the first election of officers under it shall be held by the members present at the meeting adopting it, and their election shall take the place in all respects, of a first vote by mail; provided, however, that the Advisory Board shall not be elected until 1909.

Officers of the Association, 1909-10

President—Thomas Marion Williams, '97.

Vice-Presidents—Clara Stoltenberg, '96, A. M., '97; Ralph Arnold, '99, A. M., '00, Ph. D., '02; Norman Eliot Dole, '04.

Secretary-Treasurer—John Ezra McDowell, '00.

Executive Committee—Micajah Anderson Thomas, Jr., '04, Chairman; John Pearce Mitchell, '03, A. M., '04, Ph. D., '09; Julius B. Frankenheimer, '06; Walter Raleigh Hamilton, '04; John Ezra McDowell, '00.

Advisory Board—Thomas Marion Williams, '97 (ex officio); Almon Edward Roth, class of 1909; Evelyn Wight Allan, '96; Richard Watts Barrett, '04; Newton Cleveland, '99; George Edward Crothers, '95; Herbert Coffin Jones, '02; Benjamin Palmer Oakford, '02; Dennis Searles, '95; Edward Cecil Sewall, '98; Ray Lyman Wilbur, '96.

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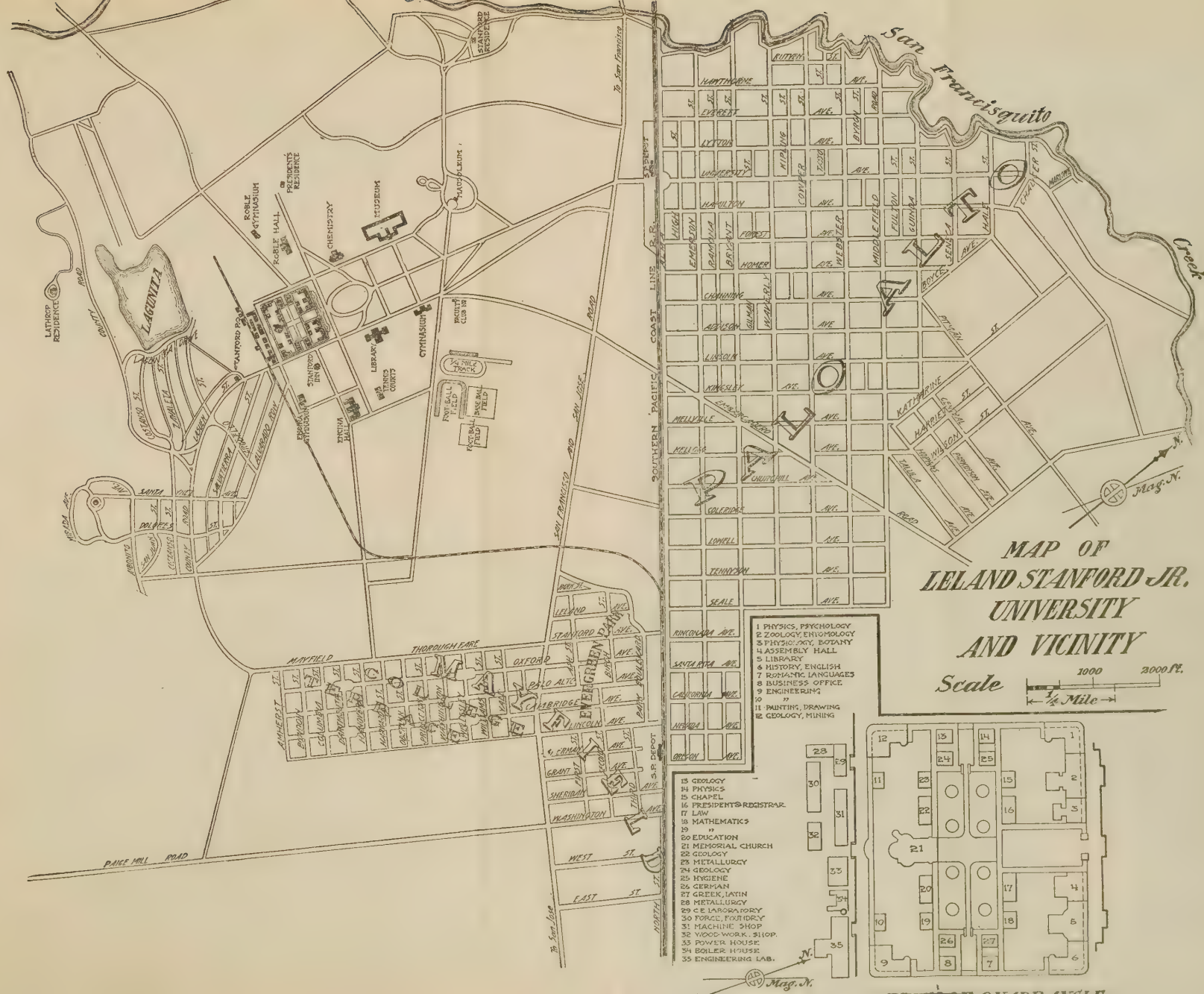
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THE REGISTRAR,
Stanford University, California.

LELAND STANFORD JUNIOR UNIVERSITY BULLETIN

Entered at the Post-office at Stanford University, California, as second-class matter, June 20, 1908, under the Act of July 16, 1894.
Issued in February, March, April, May, June, August, and October.